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AUTHOR Simpson, A. Hyatt
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ABSTRACT

Among the results of two complementary studies on the effectiveness of Arizona secondary vocational education were the following: (1) the vocational students were more satisfied with school than the nonvocational students; (2) the vocational students felt better prepared for work; (3) the 12th-grade nonvocational students scored significantly higher on reading (but not math) tests; (4) employers considered the vocational students better prepared in terms of specific job skills but not in English and math skills; (5) many more of the vocational students are likely to continue their education than their teachers and administrators realized; (6) the vocational students worked more hours during high school and had more positive attitudes toward their work experiences; and (7) parents, vocational teachers, and administrators all said job placement, vocational counseling, and cooperative work experience need improvement. The data were collected in one study by questionnaires administered to vocational and nonvocational students, parents, vocational teachers, and administrators at a sample of nine schools. In the other study, 19 vocational and 19 nonvocational graduates from four high school were interviewed, as were the graduates' current supervisors or postsecondary instructors. (Sixty-eight pages of appendices include 22 references, survey instruments, and data on responses.) (CML)

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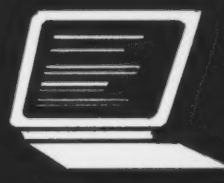
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ARIZONA VOCATIONAL EDUCATION
EFFECTIVENESS STUDY

by

A. Hyatt Simpson
Research Assistant

The Arizona Center for Vocational Education
Northern Arizona University
Flagstaff, Arizona 86011

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FORWARD

The purpose of the Arizona Vocational Education Study was to provide a preliminary assessment of the effectiveness of vocational education in Arizona. The objectives of the research were to implement two complementary studies: one in which a project previously conducted in Oregon was to be replicated, and the other in which an original Arizona inquiry was to be conducted into the issues of vocational education effectiveness.

The results from these two studies can provide valuable insights into the possible effects of vocational education, as well as into the present strengths and weaknesses which are perceived by some of the providers and consumers of vocational education. Several recommendations have been made in this report for possible improvements which can be made in future research efforts, and suggestions for improvements in current programs.

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Ms. Lydia Baker, Sunnyside Unified School District

Dr. Bob Jones, Mesa Public Schools

Ms. Sharon Miller, Yavapai Community College

Mr. Don Parsons, Coconino County Educational Services

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Finally, the project could not have been accomplished without the assistance of the persons interviewed, who shall remain anonymous, and the staff of the various high schools.

Part I

1. Deer Valley

Judy Murray, Vocational Education Clerk

Owen Layton, Administrator, Career and Vocational Education

2. Douglas
Jon Hansen, Head Counselor
3. Ganado
Juddie Batcheller, Vocational Coordinator
Richard Varrati, Principal
4. Globe
Georgia Hemsley, Counselor
5. Pueblo
Roberto Acuña, Principal
6. St. Johns
Earl Patterson, Principal
7. Tolleson
Al Mroski, Career Counselor
8. Tucson
Jerry Halfmann, Department Chairperson, Industrial Education
9. Wickenburg
Robert B. Kilker, Principal

Part II

1. Flagstaff High School
Don Parsons, Director, Coconino County Educational Services
2. Mesa High School
Dr. Bob Jones, Director, Vocational Education, Mesa Public Schools
3. Page High School
Dr. James J. McLarney, Assistant Principal
4. Sunnyside High School
Lydia Baker, Administrative Director, Secondary Curriculum,
Sunnyside School District

Gene C. Martin, Assistant Principal

All of the above people worked hard and patiently with us to bring the project to fruition.

Barbara M. Gutheil
Assistant Director - Research
Arizona Center for Vocational
Education

Robert V. Kerwood
Director
Arizona Center for Vocational
Education

EXECUTIVE SUMMARY

A concern of those involved with vocational education is whether or not it is producing the results which are expected, that is, whether it is effective. This research project addressed the question of effectiveness in Arizona secondary vocational education by looking at effects, or outcomes, of high school vocational programs in the state.

Two complementary studies were conducted, in which outcomes were examined from different approaches. In one study, a sample of nine Arizona high schools participated in administering questionnaires to vocational and nonvocational students, and vocational teachers, administrators, advisory committees, and parents. Among the major issues with which the questionnaires dealt were satisfaction with high school, and opinions on how well high school is preparing the completers for career activities.

In the second study, a more naturalistic approach was taken to surveying a small sample of 1981 high school graduates. A total of nineteen vocational and nineteen nonvocational graduates from four high schools were interviewed in person, about their post-high school employment and educational experiences, and their satisfaction with their high school preparation for these career activities. Subsequently, their current supervisors or post-secondary instructors were interviewed to gain their impressions of the graduates' high school preparation for work or school.

The results showed that the vocational students sampled were more satisfied with school than the nonvocational students, and that the vocational students felt on the whole better prepared for the world of work. Scores on standardized reading and math tests yielded a significant difference between twelfth grade vocational and nonvocational students in reading only, such that the latter scored higher. The interviews revealed little difference between the two groups of students, however employers indicated that while the vocational students were prepared in terms of specific job skills, they were often lacking in the basics (English and math).

The results also showed that many more vocational students are likely to be continuing their education than thought by teachers and administrators. In addition, it was revealed that a large percentage of students worked during high school, and vocational students worked more hours on the average than nonvocational students, and had a more positive attitude towards their work experience. Furthermore, interview results suggest that for many graduates, their first full-time job after graduation was the same one they had in high school.

In their responses to the questionnaires, parents, teachers, and administrators all noted that job placement, vocational counseling, and cooperative work experience need improvement. The majority felt that

vocational completers were obtaining the skills needed for entry-level jobs. A majority of the teachers and administrators felt that improvements were also needed on use of advisory committees.

The conclusions reached from these two studies were:

1. Work is a significant part of high school vocational students' lives, implying that Cooperative Work Experience could play a key role in increasing the relevance of school to the student.
2. Vocational education appeared to be preparing these students for the world of work, but more research is needed in order to say more about how well they are being prepared.
3. Although test scores showed that the vocational students did not perform as well in reading as the nonvocational students, statements from interviews suggest that the problems could be motivation and the need for more rigor in the vocational programs.
4. Since the data suggested that more vocational students may continue their education than thought by teachers and administrators, collaboration and articulation with post-secondary programs is all the more important.
5. Improvements are needed in many of the vocational program services which are important in helping students make successful transition from school to career activities.

Several recommendations are made for improving the research on vocational education effectiveness, and for improving existing vocational programs.

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Chapter 1

INTRODUCTION

This project was inspired by the participation of the Research Coordinating Unit (RCU) of the Arizona Department of Education (ADE) in a multi-state research effort. Several states agreed to conduct their own studies on the effectiveness of vocational education, using instruments developed and tested in Oregon. The goal of the present project was to determine vocational education effectiveness in Arizona by a two-pronged approach: (1) replicating the Oregon study, and (2) complementing the replication with data on effectiveness in Arizona, collected from other sources.

The following report begins with a description of the background of the project, and then of the underlying conceptual context of the two studies. The next sections deal with the methodology of each study, the results of each, and then a discussion section in which the two are meshed in terms of interpretation, implications, and recommendations.

BACKGROUND

Vocational education has been examined and reexamined over the years to determine whether it is producing the results which are expected and desired--in other words, whether it is effective. The effectiveness of vocational education in Arizona secondary schools was the topic of this project. Effectiveness can be looked at in many different ways; the approach chosen was to examine the outcomes of vocational education, as they pertain to preparing the student for career activities after graduation. This was accomplished by conducting two complementary studies: one in which outcomes were assessed before graduation, and the other where outcomes were based on the experiences of graduates two years after completion of their programs.

Arizona Effectiveness, Part I

As noted previously, the assessment of outcomes based on students currently in school was a replication of a study done in Oregon. The objectives of the study were to provide school district and state department of education staff with an awareness of the outcomes of, and perceived strengths and weaknesses of secondary vocational education programs (Owens and Vinarskai, 1983). The outcomes were derived from a model which took into account: student and societal needs; program components; outcomes; multiple perspectives for judging effectiveness; and multiple contexts in which vocational education operates (Owens and Vinarskai, 1983).

Arizona Effectiveness, Part II

The second part of the project was accomplished by conducting a separate study in which the issues of effectiveness were examined in the literature, and instruments were developed, pilot-tested, and used to collect data. The objective was to generate data which would supplement the findings of the replication, and provide a more rounded picture of the effectiveness of vocational education in Arizona.

A review of studies concerning effectiveness, impact evaluation, follow-up studies, program quality and the many other ways that vocational education has been probed reveals little consensus as to the best ways to research the subject. In order to supplement the replication and address issues specific to Arizona, it was necessary to narrow the focus of the concept of effectiveness. Analysis of the goals and objectives of vocational education in Arizona indicated that the issue of preparation for employment was a primary concern. Much of the literature suggests that effectiveness is best determined by examining the outcomes of vocational education. Thus the subject of inquiry developed into "Does Vocational Education in Arizona adequately prepare students for the career activities which they pursue after graduation?" The question was investigated by looking at the outcomes related to success in employment and post-secondary education, the two activities examined in Copa's (1980) follow-up study in Minnesota. The criteria used to examine preparation were derived from the results of extensive research conducted by Darcy (1980b), on outcomes of vocational education.

Chapter 2

RELATED LITERATURE

OUTCOMES, A CONCEPTUAL CONTEXT

The conceptual context underlying the two studies will be described in terms of the reason for using outcomes as the basis for examining effectiveness, and some of the issues raised in the literature concerning the appropriate outcomes to use and the appropriateness of their use.

Why Study Outcomes?

Effectiveness of educational programs is a primary concern of educational research, and as a result there are numerous ways to define the context in which it will be viewed. The context in which effectiveness is viewed for the present study is that of effects, or outcomes of vocational education. Grasso (1979) considers vocational education as an intervention, "having consequences for consumers and society which are to be assessed" (p. 8), and calls that assessment "impact evaluation". Darcy (1980b) defines the consequences of vocational education as outcomes--which include products, outputs, effects, results, and impacts. Abramson (Abramson, Tittle, and Cohen, 1979), in a review of evaluation approaches to vocational education, found that most seemed to center around outcomes as evaluation criteria.

There is substantial agreement that the outcomes of vocational education should be assessed, and for the most part, everyone agrees on the reasons for the assessment. Grasso (1979), in referring to the importance of impact evaluation, cited three reasons, which seem to be generally accepted:

- (1) to document the effectiveness of existing programs;
- (2) to suggest improvements in programs;
- (3) to satisfy accountability needs.

However, the real area of debate concerns attempts to define the outcomes for which vocational education should be held accountable.

Outcomes Appropriate for Effectiveness Studies

Darcy (1980a) points out that the effects of vocational training are diverse, and that there is a need for well-defined performance criteria for examining effectiveness. He questions the appropriateness of the many standard criteria or outcomes, such as training-related placement and higher earnings, and suggests that more attention needs to be focused on determining which outcomes to use to judge the effectiveness of vocational education.

Cronin (1980) also expresses a concern about the criteria for judging vocational education: "I believe it is unfair to attribute to vocational education the short-comings of our economy, the structural changes in the job market and the movement of so many employers to suburbia" (p. 51). He suggests that research should concentrate more on the productivity and impacts of programs, and "the ways to reach out and serve youth and adults more effectively" (p. 51).

In arriving at the information needed to make program improvement decisions, Copa (1980) recommends that various program outputs (or outcomes) be considered. These can then be contrasted with the context in which they occur (students' abilities before entering the program, and employment conditions in the labor market). Grasso (1979) also advises a contrast; he points out the need for a comparison between vocational students and those in other curricula, in order to attribute an observed outcome to the vocational program. On the other side of that coin is the view that vocational education does not necessarily have to be shown to be the most effective means to producing the desired outcomes. Rather, it can be demonstrated that "vocational education is one means among others, equally effective in most cases, and more effective than other means in some cases" (Kievet as cited in Grasso, 1979, p. 3).

A Broader Perspective on Potential Effects

In order to arrive at the outcomes which would be appropriate for the current study, several common indicators were considered, such as training-related employment, employer satisfaction, and development of entry-level skills. While many authors find fault with these outcomes for methodological as well as conceptual reasons (see especially National Institute of Education, 1981), nevertheless they are still used in most studies of vocational education effects. However, there is also a realization that a broader and more comprehensive view must be adopted of the potential effects of vocational education. Morell (in Abramson, et al., 1979) argues that effects should not be limited to those concerning employment, as there is probably "a complex process of social and psychological change which contributes to a person's ability to seek, find, and maintain employment" (p. 239).

Grasso (1979), Russell and Miller (1980), Venn (1978), and many others also express concern for a broader approach to the study of

outcomes and relying too heavily on measures of employment-related training. Venn advises that such a criterion is useful to a limited extent, however "when it dominates the measures of accountability, guarantees that vocational education would become less and less concerned with the future and work change and thereby less and less able to develop new criteria and programs responsive to changing conditions" (1978, p. 189).

Another concern is that vocational education may be being held accountable for effects which should not be attributable to vocational education alone, or effects over which vocational education has no control. Copa (1980) notes that vocational students in Minnesota spend at most about ten percent of their time in vocational classes. The rest of their classes also make some contribution to the student's preparation for the world of work; "separating out the effects of vocational education is at best difficult and perhaps unwise" (Copa, 1980, p. 5).

Thus, despite the fact that there is still much argument about how to study effectiveness, there is a certain amount of agreement that outcomes are an important criterion. Furthermore, even though there is an ongoing debate on which outcomes are appropriate, the literature does reveal some trends in the study of outcomes. The outcomes most frequently examined can be summarized into five categories:

- (1) student performance
- (2) student attitudes
- (3) occupational success
- (4) post-secondary success
- (5) characteristics of students choosing vocational curriculum.

SUMMARY

Among the most useful approaches to determining whether vocational education is effective is to assess its outcomes, or effects. It is necessary to identify the perspective in which the effects will be examined--is vocational education alone responsible for all of the employment-related experiences a student has upon graduation? In light of the above review, it can be concluded that more research needs to be done on the question of what effects can realistically be expected of vocational education, before we can answer questions about its effectiveness. Consequently, the approach to the study of outcomes as reported here is exploratory. Effectiveness issues will be explored through prevalent vocational education outcomes. At the same time, the usefulness and applicability of those outcomes for Arizona will be explored.

Chapter 3

METHODOLOGY AND RESULTS

The two studies which were conducted to assess vocational education effectiveness in Arizona had a common thread--how well vocational education is preparing students for career activities, in employment as well as further education. Both compared vocational with nonvocational students, and by so doing, were also attempting to answer a question of whether or not vocational education makes a difference in how well the student is prepared. Both attempt to describe the outcomes resulting from participation in vocational education, and to determine how responsible vocational education is for the nature of those outcomes.

This chapter will now be divided between Parts One and Two so that the methodology of each is described in total, one at a time.

RESEARCH DESIGN, PART ONE

The study on secondary vocational education effectiveness was initially designed and implemented in Oregon. The basis of the study was the identification of a set of outcomes which would help indicate the areas of strength and weakness in vocational education. The context for the outcomes was that of current students. A group of educators, administrators, and employers assisted in the development of a list of outcomes and a list of program indicators which were used to develop survey instruments (Owens and Vinarskai, 1983).

The top priority outcomes identified by the group were:

1. Possession of occupational skills needed for an entry level job.
2. Ability to apply basic literacy skills to work tasks.
3. Ability to apply basic occupational skills to work tasks.
4. Ability to meet the local labor market demand.
5. Possession of interpersonal skills for relating to others.
6. Pride in producing quality work.
7. Possession of good work habits.
8. Development of transferable occupational skills.

The quality program indicators which the group rated as top priority were:

1. Availability of instructional staff with adequate training and experience in the vocational area.
2. Improved linkage with business, industry and labor.
3. Placement of completers in employment related to their area of vocational training.
4. Availability of quality cooperative work-experience opportunities for those desiring them.
5. Availability of realistic instructional experiences.

The instruments assess the outcomes and program quality from the perspectives of current vocational and non-vocational education high school students, vocational education teachers, administrators, advisory committee members, and parents.

In Oregon, eleven schools participated in the study. Data were gathered on all twelfth grade vocational students and on a sample of students in three comparison groups. The three comparison groups were twelfth grade nonvocational students and tenth grade vocational and nonvocational students. Data were also gathered from vocational education teachers, administrators, advisory committee members, and parents of the twelfth grade vocational students.

The Arizona replication of the study closely followed the Oregon research design; no major modifications were made. One minor modification was in the training and orientation of the school contact persons. This was not done on-site, due to time constraints. Rather, the materials were mailed to the appropriate person, with frequent telephone contact by project staff before and after delivery of the orientation materials.

Instrumentation

Eight separate questionnaires were used to gather data. Four were for students: one each for tenth and twelfth grade vocational education students, and one each for tenth and twelfth grade nonvocational students. The rest included one for eleventh and twelfth grade vocational education teachers, one for vocational education administrators or coordinators, one for local vocational advisory committees, and one for the parents of the twelfth grade vocational education students.

Each student questionnaire included a timed, functional reading or math survey test of 20-25 items. The questionnaires then sought information about why students did or did not choose vocational education, their educational and employment plans for after graduation,

the types of employment experiences they have had, their satisfaction with school, and their opinions on how well school has prepared them for the world of work. The twelfth grade instrument also included a self-concept measure. A sample of the twelfth grade vocational education questionnaire is in Appendix A.

Teachers and coordinators or administrators were requested to rate the quality of their vocational programs, the preparation of their program completers, and the degree to which to their program meets certain standards such as articulation and collaboration. In addition, they were asked about involvement of and support services for disadvantaged students in their program, and about their own involvement in planning of the program. Coordinators or administrators were also queried about possible improvement in public attitudes towards the program as well as in linkages with the business community. An example of the teacher questionnaire is found in Appendix B.

The advisory committees were asked to rate their programs as to whether or not they met certain standard program criteria. They were also requested to rate the extent of their program completers' preparation for work, and how well the program has met the standards such as articulation with post-secondary programs. Their opinion was also sought as to whether the committee met certain standards concerning its function and performance.

The parent questionnaire was directed more at the parents' opinions and feelings about their student's participation in vocational education. They also were asked about their satisfaction with counseling and other services. A sample of the parent questionnaire is provided in Appendix C.

Procedures

Sample

Selection of Schools. Following the research design from the original study in Oregon, the sample of schools in Arizona was to consist of thirteen high schools with three sizes of enrollment: small, medium, and large. In order to arrive at the desired sample size of thirteen, sixteen schools were selected, in order to allow for refusals. An Arizona Department of Education computer print-out, "Secondary Vocational Education Enrollment Data 1981-82" was used to generate a random sample of schools. On this list, the school districts were arranged by size, according to vocational enrollments in terms of average daily attendance. To further delineate by schools, districts with more than one high school were contacted for comparable enrollment information for each school. When the final list was compiled, it was divided into the three enrollment sizes, which resulted in:

small: 0- 700 students
medium: 701-1400 students
large: 1401 students and over

The final list was used to generate a random sample of six small schools, four medium schools, and six large schools. When the sample yielded more than one school in a district, adjustments were then made to provide better geographic distribution.

A letter was sent to the superintendent of each school's district, explaining the study and requesting that the school be allowed to participate. A post card was enclosed to be returned with an indication of agreement or refusal to participate, and if they agreed, designation of a contact person at the school. Out of the sixteen contacted, ten agreed to participate, with a size distribution of four large, three medium, and three small schools. After the project was under way, one of the medium schools dropped out, leaving a total of nine schools participating.

Survey Sample. The student sample at each school included all twelfth grade vocational education students (all those who had had at least two prior semesters or the equivalent of course work in a state-approved vocational education cluster area, beyond the exploratory level). The rest of the student sample for each school called for 60 each of: twelfth grade nonvocational education students and tenth grade vocational and tenth grade nonvocational education students. Also to be sampled at each school were eleventh and twelfth grade vocational education teachers, the administrators or coordinators of vocational education for the school, and advisory committees. Parents of twelfth grade vocational education students were also surveyed.

Data Collection

The contact person at each school coordinated the distribution and collection of questionnaires; the procedures provided to them were basically the same as those used in Oregon. The procedures (see Appendix D) explained how to select the students to complete the questionnaires, as well as the best way of distributing instruments to the other groups (teachers, etc.).

Each twelfth grade vocational education teacher was given enough questionnaires to administer to all of their students in one class period. As with each different grade group, the surveys were furnished in a group setting in order to allow timed achievement tests to be administered according to a standardized procedure. The survey booklets were distributed so that half of the students received the reading achievement test and half the mathematics achievement test. Before commencing with their questionnaires, the twelfth grade vocational students were asked to complete and detach a form on which they provided their parents' name and mailing address. On the form it was explained that this was to be used to send a similar questionnaire to their parents.

The twelfth grade nonvocational students were surveyed in classes required of all twelfth graders, such as English. Tenth graders were also surveyed in classes such as English, where both vocational and nonvocational students of similar academic background could be found. The tenth grade vocational student surveys were completed by students either in pre-vocational courses or by those planning to take vocational courses in eleventh or twelfth grade. Tenth graders not planning to go into vocational education were also surveyed.

Once the detachable address forms were collected from the twelfth grade vocational students and returned to project staff, a questionnaire with an explanatory cover letter and postage-paid envelope was mailed to the parents. A follow-up post card was sent at a later date to parents who had not yet returned their surveys. This was done to see if the response rate could be improved.

Data Collection Limitations

More schools than anticipated could not participate in the study, apparently because of time and resource constraints. The result was that the size distribution did not meet the research design. In addition, one school dropped out at the onset of the study, further reducing the school sample size.

Many of the schools were unable to provide the requested number of completed questionnaires for the three student comparison groups. The problems encountered included difficulty in identifying enough twelfth graders who did not meet the definition of vocational students. This was especially a problem for the smaller schools, but apparently was encountered in the larger schools as well. Also, many teachers apparently did not feel they could spare the classroom time for administering the questionnaires. This may have been a result of the timing of the project; some of the schools were either at the end of their semesters or approaching finals.

In addition to fewer than expected student questionnaires, there were also fewer than expected in the non-student groups. The problem was most pronounced with the advisory committees—questionnaires from only two committees were returned, one of which was a district-wide committee representing two of the schools. Consequently, no analysis was performed on the committee questionnaire.

FINDINGS

Student Survey

Student Characteristics

Data were gathered from 1,881 students in nine high schools in Arizona. Over half of the vocational students listed either business and office occupations or trades and industry as their vocational program area. Appendix E shows the distribution of respondents by grade, curriculum (vocational or nonvocational), and program area. Over half of the vocational students in both grades entered the curriculum either because they wanted to learn job skills, or because they had an interest in the area. Similarly, over half of the nonvocational students said they did not choose the vocational curriculum either because they preferred other courses or they needed other courses in order to reach their goals. Appendix F shows the distribution on the question of why vocational education was or was not chosen as a curriculum. Please note that tenth graders were sampled according to whether they were in or were planning to enter vocational education.

In the tenth grade, there was a significant difference, at the .05 level, between the sexes regarding their curriculum, as shown in Tables 1 and 2. Slightly over half of the males were nonvocational, while slightly more than half of the females were in a vocational curriculum. This difference disappeared by twelfth grade, however, when slightly more than half of the vocational and nonvocational students were female.

Tables 3 and 4 show the ethnicity of the students. In the tenth grade, over 60% of the vocational students were from minority groups, while the percentage of minorities in the nonvocational group was slightly less. Minorities made up less than half of the twelfth grade vocational students, and more than half of the twelfth grade nonvocational students. In both grades the percentage of Hispanics in the vocational curriculum was higher than in nonvocational, although the difference decreased in the twelfth grade. The percentage of Native Americans in vocational education in the tenth grade was twice as high as in the twelfth grade.

Parents' occupation, as reported by the students, is shown in Appendix G. The differences in distribution of parents' occupations were slight. Over half of all fathers were classified as being in blue collar occupations. The percentage in the vocational student group remained about the same between grades, while the percentage of fathers in blue collar occupations in the nonvocational group decreased from tenth grade to twelfth grade. The majority of mothers in both groups were classified as homemakers or other; more of the nonvocational group's mothers were classified in white collar occupations than the vocational group's.

Table 1
Sex of Tenth Graders

Sex	Curriculum	
	VE	NVE
Male	206 (43.8)	216 (52.9)
Female	264 (56.1)	192 (47.1)
Total	470 (100.00)	408 (100.00)

Significance: $< .05$

Table 2
Sex of Twelfth Graders

Sex	Curriculum	
	VE	NVE
Male	288 (44.2)	124 (44.6)
Female	363 (55.8)	154 (55.4)
Total	651 (100.00)	278 (100.00)

Significance: NS (not significant)

Table 3
Tenth Graders' Ethnicity

Ethnic Group	Percent of Curriculum	
	VE	NVE
White	39.1	41.3
Hispanic	42.3	35.6
Native American	14.9	17.9
Black	.6	1.5
Asian	.2	.5
Other	2.8	3.2
Total	100.0	100.0
	(N=470)	(N=402)

Table 4
Twelfth Graders' Ethnicity

Ethnic Group	Percent of Curriculum	
	VE	NVE
White	52.6	48.4
Hispanic	35.9	31.3
Native American	7.0	13.2
Black	1.2	2.5
Asian	1.4	1.8
Other	1.8	2.8
Total	100.0	100.0
	(N=654)	(N=281)

Appendix G also presents parents' educational levels as reported by students. Except for tenth grade nonvocational students, over 25% of all groups had not completed high school. Twenty-four percent of the fathers of tenth grade nonvocational students had not graduated from high school. Parents in both nonvocational groups had the lowest percentage for less than high school education, and the highest percentages for the category of college graduate or more.

Students were asked about the kinds of jobs they had had in their current or most recent work activity. As shown in Appendix H, they could choose from twelve different job categories. In tenth grade, the responses were quite similar; the most frequent category chosen by both vocational and nonvocational students was babysitting or child care. The next most frequent categories were: "have not worked for pay," "lawn or odd jobs," and "other". In twelfth grade, the responses were also very close in distribution. The most frequent response categories were "waiter or waitress," "babysitting or child care," "store clerk or sales person," "office or clerical," and "other."

As reported in Table 5, there was no significant difference between the tenth grade groups in the number of hours they normally work in a paid job during the school year. Table 6 shows that there was a significant difference, at the .01 level, between vocational and nonvocational twelfth grade students, indicating that the former were working more hours during the school year.

The students were also asked about their participation in vocationally-related activities. From a list of 12 activities, they were asked to indicate all that they had participated in during the school year. Appendix H shows the frequency of students participating in each activity, as well as the mean number of activities for each group. Cooperative work experience had the highest number of participants from each group, with quite an increase from tenth grade to twelfth grade for both vocational and nonvocational students. In twelfth grade, more vocational students took part in DECA, FBLA, and VICA. The only activities in which there were significantly more nonvocational students than vocational were CETA work programs and Explorer Scouts.

Performance

Several items on the student questionnaires related to the students' performance in school. Mean scores for the two grades on the basic skills tests, according to curriculum, are presented in Tables 7 and 8. For the reading test, the maximum score possible was 20, and for math the maximum was 25. A one-way analysis of variance showed that in the tenth grade, there was no significant difference between vocational and nonvocational students in either basic skills test scores. Nor was there a difference between groups for twelfth graders on the math test. On the reading test, however, the nonvocational students' mean score was higher, and an F ratio significant at the .01 level was obtained.

Table 5

Number of Hours Worked in a Paid Job During the School Year
Tenth Grade

Number of Hours	Curriculum	
	VE	NVE
None	135 (31.2)	99 (26.5)
1-14 hours	197 (45.5)	184 (49.2)
15-29 hours	64 (14.8)	52 (13.9)
30 hours or more	37 (8.5)	39 (10.4)
Total	433 (100.0)	374 (100.0)

Significance: NS

Table 6

Number of Hours Worked in a Paid Job During the School Year
Twelfth Grade

Number of Hours	Curriculum	
	VE	NVE
None	126 (20.1)	70 (26.1)
1-14 hours	144 (23.0)	93 (34.7)
15-29 hours	263 (42.0)	69 (25.7)
30 hours or more	93 (14.9)	36 (13.4)
Total	626 (100.0)	268 (100.0)

Significance: < .01

Table 7

Mean Scores on Standardized Basic Skills Tests
Tenth Grade

Test	Mean Score		Degrees of Freedom	F Ratio	Significance of F
	VE	NVE			
Reading (Total score = 20)	7.55	7.94	1	1.063	NS
Math (Total score = 25)	11.52	11.98	1	1.096	NS

Table 8

Mean Scores on Standardized Basic Skills Tests
Twelfth Grade

Test	Mean Score		Degrees of Freedom	F Ratio	Significance of F
	VE	NVE			
Reading (Total score = 20)	8.00	9.29	1	6.669	< .01
Math (Total score = 25)	12.09	12.99	1	3.315	NS

Students were asked about their grades in high school, and the results of the responses are shown in Tables 9 and 10. In the tenth grade, a chi square test yielded a significant difference between the two groups at the .05 level. Among the nonvocational students, 11.8% reported grades in the 90-100 range, while 6.7% of the vocational students reported grades in that range. Conversely, a higher percentage of vocational students than nonvocational reported grades in the lowest ranges. The results from the twelfth graders were similar, however the significance of the difference was at the .01 level. The nonvocational students' grades appear to have gone up more than the vocational students' grades. Consequently, the difference between the two groups is greater in the upper grade range of 90-100.

Another aspect of performance, how well prepared the students feel for the world of work, was examined with twelfth graders only. The results are presented in Table 11. A score of 1 was assigned to "Very Well Prepared", and 4 was assigned to a rating of "Very Poorly Prepared." In every case, the vocational students reported feeling significantly more prepared; however due to the nature of the scale, the absolute differences do not appear great. Nevertheless, although the magnitude of difference may be a function of the instrument, the consistency of response is evident.

When asked how much they felt their high school education would help prepare them for their first full-time job after leaving school, 63.6% of the vocational twelfth graders felt it would help them very much, while only 52.3% of the nonvocational students felt that way.

Attitudes

The student questionnaires contained several attitudinal indicators. These included a self-concept measure for twelfth graders only, and satisfaction with school and attitudes towards work for both grades.

The means scores of the twelfth graders on the self-concept measure are reported in Table 12. On each question, a score of 1 indicated a higher self-concept. The difference between vocational and nonvocational students was slight, but significant at the .05 level, indicating that the vocational students have a somewhat better concept of themselves.

The tenth graders' and twelfth graders' means scores on the items concerning satisfaction with school are shown in Tables 13 and 14, respectively. Except in career counseling, vocational tenth graders appear to be significantly more satisfied than the nonvocational group concerning vocationally-related items. However, there was no significant difference between the two groups concerning career counseling or overall nonvocational education. Two of the items were not asked of the nonvocational students. The magnitude of differences between the two groups is not great, but it is fairly consistent. As with the scale on preparation mentioned earlier, this may be more a function of the instrument, due to the nature of the scale. As can be

Table 9
Average Grades Reported by Students
Tenth Grade

Grades	Curriculum	
	VE	NVE
90 - 100	31 (6.7)	47 (11.8)
80 - 89	163 (35.4)	129 (32.3)
70 - 79	200 (43.4)	176 (44.1)
69 and below	67 (14.5)	47 (11.8)
Total	461 (100.0)	399 (100.0)

Significance: < .05

Table 10
Average Grades Reported by Students
Twelfth Grade

Grades	Curriculum	
	VE	NVE
90 - 100	52 (8.0)	51 (18.2)
80 - 89	228 (35.0)	90 (32.1)
70 - 79	305 (46.8)	105 (37.5)
69 and below	67 (10.3)	34 (12.1)
Total	652 (100.0)	280 (100.0)

Significance: < .01

Table 11
Mean Rating on Preparation, Twelfth Grade

Skill	Mean Score		Degrees of Freedom	F Ratio	Significance of F
	VE	NVE			
1. Vocational or technical skills needed to get an entry-level job*	2.1256				
2. Knowing how to look for and obtain a job	2.0075	2.2766	1	25.707	< .01
3. Being able to follow directions	1.5686	1.7032	1	11.311	< .01
4. Willing to learn new things	1.3810	1.4912	1	8.705	< .01
5. Being on time for work or in completing tasks	1.4684	1.6325	1	13.540	< .01
6. Getting along with others	1.4532	1.5724	1	8.381	< .01
7. Preparing a job resume	2.1662	2.3121	1	6.311	< .01
8. Interviewing for a job	1.9186	2.1767	1	20.835	< .01
9. Using reading skills to do job tasks	1.7587	1.8486	1	3.857	< .05
10. Using math skills to do job tasks	1.9879	2.0739	1	2.869	NS
11. Being aware of both the positive as well as the negative aspects of jobs	1.7598	1.9152	1	12.650	< .01
12. Understanding the importance of being productive on the job	1.5636	1.6678	1	6.040	< .05

Table 11 Continued

Skill	Mean Score		Degrees of Freedom	F Ratio	Significance of F
	VE	NVE			
13. Being able to use speaking and listening skills in work situations	1.7391	1.8204	1	3.096	NS
14. Doing work that meets acceptable standards*	1.6299				

* Asked only of VE students

Table 12

Mean Scores on Self-Concept Composite Rating

	Mean Score	Degrees of Freedom	F Ratio	Significance of F
VE	1.8399	1	5.353	< .05
NVE	1.9147			

Table 13
Mean Student Rating of Program Aspects
Tenth Grade

Program Aspect	Mean Score		Degrees of Freedom	F Ratio	Significance of F
	VE	NVE			
1. Quality of the instruction	1.8602	2.0305	1	16.335	< .01
2. Occupational information available	2.0129	2.2031	1	11.858	< .01
3. Help in finding a job after program completion	2.0144	2.2522	1	8.293	< .01
4. Counseling about careers	2.1306	2.2028	1	1.417	NS
5. The instructional materials are up-to-date	1.9967	2.1738	1	8.919	< .01
6. Paid work experience which is part of your vocational program*	2.3011				
7. Overall, how satisfied are you with the <u>vocational</u> education you have received in high school?*	1.8134				
8. Overall, how satisfied are you with the <u>general nonvocational</u> education you have received in high school?*	2.1175	2.0619	1	.667	NS

*Asked of VE students only

Table 14

Mean Student Rating of Program Aspects
Twelfth Grade

Program Aspect	Mean Score		Degrees of Freedom	F Ratio	Significance of F
	VE	NVE			
1. Quality of the instruction	1.8123	2.0881	1	42.073	< .01
2. Occupational information available	1.9857	2.0891	1	3.844	< .05
3. Help in finding a job after program completion	2.1086	2.3966	1	13.109	< .01
4. Counseling about careers	2.0773	2.1406	1	1.210	NS
5. The instructional materials are up-to-date	1.8344	2.1680	1	43.274	< .01
6. Paid work experience which is part of your vocational program*	1.9405				
7. Overall, how satisfied are you with the <u>vocational</u> education you have received in high school?*	1.6869				
8. Overall, how satisfied are you with the <u>general nonvocational</u> education you have received in high school?*	2.0721	1.9819	1	3.507	NS

*Asked of VE students only

seen in Table 14, the results for the twelfth graders were almost identical to the tenth graders in terms of significance and direction of differences.

On the six items concerning attitude towards work, presented in Tables 15 through 26, there was no significant difference between tenth graders' responses except in the item concerning the relatedness of their job to their high school program (Table 25). At the .01 level, significantly more vocational than nonvocational students felt that their work was directly or closely related to their high school training. However, the majority of both groups felt that their work was not related to their training.

In the twelfth grade, over 80% of both groups felt that their job was not a place where people "goof off". Correspondingly, there was no significant difference between the two groups concerning the importance of school as opposed to work--over 80% of both groups felt school was more important. However, there were significant differences between the groups on the other items. Over half of the nonvocational students felt that a job was something to do just for the money, while only 43% of the vocational students felt that way. The number of nonvocational students reporting this increased from tenth grade to twelfth grade.

Significantly more of the nonvocational students in twelfth grade also felt that work was not more enjoyable than school. This was again an increase over the tenth grade response on the question.

Significantly more vocational than nonvocational students in the twelfth grade felt that their job encourages good work habits. Fewer twelfth grade than tenth grade nonvocational students reported positively on this question.

Finally, on the last question concerning relatedness of their jobs to their training in high school, the difference between twelfth grade vocational and nonvocational students was significant at the .01 level. Fifty percent of the vocational students felt their job was related, while only 26% of the nonvocational students responded thus. The percentages answering affirmatively in both groups were higher than the two tenth grade groups.

Table 15

Attitudes Towards Present or Most Recent Job
Tenth Grade

Q: Is work a place to goof off?	Curriculum	
	VE	NVE
Yes	52 (14.3)	51 (15.6)
No	311 (85.7)	276 (84.4)
Total	363 (100.0)	327 (100.0)

Significance: NS

Table 16

Attitudes Towards Present or Most Recent Job
Twelfth Grade

Q: Is work a place to goof off?	Curriculum	
	VE	NVE
Yes	74 (13.5)	39 (16.0)
No	473 (86.5)	204 (84.0)
Total	547 (100.0)	243 (100.0)

Significance: NS

Table 17

Attitudes Towards Present or Most Recent Job
Tenth Grade

Q: Is work something you do just for money?	Curriculum	
	VE	NVE
Yes	211 (55.8)	206 (58.7)
No	167 (44.2)	145 (41.3)
Total	378 (100.0)	351 (100.0)

Significance: NS

Table 18

Attitudes Towards Present or Most Recent Job
Twelfth Grade

Q: Is work something you do just for money?	Curriculum	
	VE	NVE
Yes	259 (45.7)	144 (56.7)
No	308 (54.3)	110 (43.3)
Total	567 (100.0)	254 (100.0)

Significance: <.01

Table 19

Attitudes Towards Present or Most Recent Job
Tenth Grade

Q: Is work more enjoyable than school?	Curriculum	
	VE	NVE
Yes	193 (54.1)	164 (49.5)
No	164 (45.9)	167 (50.5)
Total	357 (100.0)	331 (100.0)

Significance: NS

Table 20

Attitudes Towards Present or Most Recent Job
Twelfth Grade

Q: Is work more enjoyable than school?	Curriculum	
	VE	NVE
Yes	281 (51.0)	95 (39.3)
No	270 (49.0)	147 (60.7)
Total	551 (100.0)	242 (100.0)

Significance: < .01

Table 21

Attitudes Towards Present or Most Recent Job
Tenth Grade

Q: Does work encourage good work habits?	Curriculum	
	VE	NVE
Yes	303 (81.5)	264 (80.0)
No	69 (18.5)	66 (20.0)
Total	372 (100.0)	330 (100.0)

Significance: NS

Table 22

Attitudes Towards Present or Most Recent Job
Twelfth Grade

Q: Does work encourage good work habits?	Curriculum	
	VE	NVE
Yes	484 (85.4)	197 (78.8)
No	83 (14.6)	53 (21.2)
Total	567 (100.0)	250 (100.0)

Significance: <.05

Table 23

Attitudes Towards Present or Most Recent Job
Tenth Grade

Q: Is work more important than school?	Curriculum	
	VE	NVE
Yes	42 (11.8)	42 (12.9)
No	315 (88.2)	283 (87.1)
Total	357 (100.0)	325 (100.0)

Significance: NS

Table 24

Attitudes Towards Present or Most Recent Job
Twelfth Grade

Q: Is work more important than school?	Curriculum	
	VE	NVE
Yes	96 (17.7)	35 (14.3)
No	447 (82.3)	209 (85.7)
Total	543 (100.0)	244 (100.0)

Significance: NS

Table 25

Attitudes Towards Present or Most Recent Job
Tenth Grade

Q: Is work related to your high school training?	Curriculum	
	VE	NVE
Yes	104 (29.0)	61 (18.9)
No	255 (71.0)	262 (81.1)
Total	359 (100.0)	323 (100.0)

Significance: <.01

Table 26

Attitudes Towards Present or Most Recent Job
Twelfth Grade

Q: Is work related to your high school training?	Curriculum	
	VE	NVE
Yes	282 (50.4)	64 (26.4)
No	278 (49.6)	178 (73.6)
Total	560 (100.0)	242 (100.0)

Significance: <.01

Plans After Graduation

In response to the question, "What is the one thing that most likely will take the largest share of your time in the year after you leave high school?", the twelfth graders responded as shown in Appendix I. The distribution of responses was very similar, with the majority of both groups planning on some type of post-secondary education. Over half of the vocational students indicated they would take future training related to their high school vocational training. A larger percentage of nonvocational students indicated they would attend a four year college or university, and a larger percentage of vocational students thought they would go to a junior or community college. More vocational students planned on working full time.

Twenty-three percent of the twelfth grade vocational students were not aware of programs available in community colleges, business schools, etc., that would provide them with more advanced training in their high school vocational area. Of those who were aware of such programs, only 59% had knowledge of the courses or general content provided by these programs.

Suggestions for Improvement

When asked for their suggestions for improvement, the twelfth grade vocational students had several mutual areas of concern. They frequently noted the need for more information about vocational courses available in high school, especially for the younger students. The students also suggested that there be more vocational courses offered, in terms of variety and more advanced courses, and also encouraging increased participation in vocational education. Many were also concerned about career counseling, job skills, job placement, and work experience. There were also several comments about equipment and facilities needing improvement, especially in the area of computers. In addition, they were concerned about the quality of instruction, and saw the need for harder classes, longer classes, smaller classes.

Summary

Students chose to go into vocational education more to pursue a personal interest in the area, and then to learn job skills. Students in vocational education were more likely than the nonvocational students to report being satisfied with school, but were more satisfied with their overall vocational curriculum than with the nonvocational courses. The twelfth grade vocational students had a more positive attitude towards their employment experiences, and overall felt better prepared for the world of work than nonvocational students. The twelfth grade vocational students also appeared to have a slightly better concept of themselves than the nonvocational twelfth graders. More of the vocational seniors than nonvocational were planning to work full time after graduation, and more of the nonvocational seniors were planning to go to a four-year college or university. Over half of both groups were planning to participate in post-secondary education.

Teacher Survey

The teacher survey was completed and returned by 74 teachers from nine high schools in Arizona. The majority of the teachers taught either in Business and Office (31%) or Trades and Industry (35%). Slightly under half of those surveyed were women. The average amount of time they had been vocational teachers was 8.6 years. Forty-five percent had a master's degree, and all but four teachers had had previous occupational experience of one year or more.

The teachers were asked to rate the quality of components of their vocational education program on a scale from one to four; the distribution of scores is shown in Appendix J. The areas receiving the highest ratings were quality of instruction and realistic instructional experiences. Those with the lowest ratings were: vocational counseling, job placement assistance for completers, program advisory council, and availability of cooperative work experience opportunities for all who desire it.

The results of teachers' ratings of their program completers' preparedness for the world of work are shown in Appendix K. Over 80% rated the completers well prepared or very well prepared on about half of the items. The highest percentage rated the students as prepared in the areas of interpersonal skills and being able to do the job for which they had been trained. The highest percentage rated the students as not prepared on the use of math and reading skills, and on job-hunting skills.

When asked what percentage of their program completers find jobs related to their vocational training, 40% indicated "none"; the median was 20%. Although almost 78% of the teachers thought most of their program completers are informed about available post-secondary programs, over 50% indicated that none of their completers enroll in post-secondary vocational programs related to their training. The median percentage thought to enroll in such programs was 10%.

The majority of teachers (76%) use contact with employers as input to help assure that their vocational education program is meeting current and future labor market needs. Over 50% use advisory committee input, and almost 40% attend local business conferences or meetings to obtain information about labor market needs.

In Appendix L the teachers' ratings of their vocational program on other vocational outcomes standards are shown. On most of the standards, fewer than 25% of the teachers felt that the standard was fully met by the program, although over half felt that the standard was partially met. Concerning the program's ability to increase the attractiveness of the community for economic development, slightly more than half felt the standard was partially or fully met.

Relatively few handicapped and economically disadvantaged students were reported to be participating in the teachers' vocational programs.

However, over 65% of the teachers felt the support services provided to each of the two groups to be satisfactory.

When asked to what extent the teachers were involved in the planning of their local district's annual plan for vocational education, 53.7% were moderately or extensively involved, and 46.3% had little or no involvement. In response to a request for suggestions for improvement of their school's vocational education, several common themes arose. Many felt that advisory committees either needed improvement in their functioning, or needed to be established, period. A few felt that the administration and coordination needed improvement, as well as better cooperation and articulation with the rest of the school. In addition, teachers were also concerned about equipment, and funding, and the need for expanded curriculum. Counseling and job placement were also seen as needing improvement.

Summary

The teachers were more positive about the vocational instruction the students were receiving than support services. They gave the lowest ratings to services such as job placement assistance, vocational counseling, and availability of cooperative work experience. While most of the teachers rated the vocational students fairly high on preparedness for the world of work, they did not perceive their completers as being especially well-prepared in job-hunting skills or in math and reading. Most saw room for improvement in their program for each of the vocational program standards. Advisory committees were a major source of dissatisfaction for the teachers.

Coordinator/Administrator Survey

Surveys were completed and returned by 13 coordinator/administrators (C/A's) from nine high schools in Arizona. Four of the C/A's were women; three were vocational coordinators, three were curriculum directors, and two were counselors. Five did not indicate their current position.

When asked to rate the various components of their school's vocational program, the highest percentage of C/A's gave "good" to "excellent" ratings on the training and experience of the instructional staff. The results on these ratings are shown in Appendix M. Many also rated highly the equipment and materials, physical facilities, and the realistic instructional experiences. However, their ratings do not reflect confidence in job placement for completers, availability of cooperative work experience, advisory councils, and vocational counseling.

In rating the preparation of their completers for the world of work, the C/A's judged their completers as prepared on most of the items. These results are presented in Appendix N. The items which received fewer high ratings concerned the students' desire to learn new

things, getting along with others, and their ability to use reading skills to do job tasks. They were most confident in their completers' skills in knowing how to look for and obtain a job, and being able to follow directions.

The C/A's were also asked to judge how fully their program had met certain vocational education outcome standards. The ratings are presented in Appendix O. Fewer than half felt that their program had fully met each of the standards, particularly those concerning the meeting of labor market needs, the articulation of the program with post-secondary programs, and reflecting the emerging occupational trends. However, with the exception of one standard, over 75% of the C/A's felt the standards were at least partially met. The one exception was the meeting of labor market trends; only half of the respondents felt the standard was at least partially met.

The majority of the C/A's reported having handicapped and economically disadvantaged students enrolled in their programs. Most felt that the services being provided to the two groups were satisfactory, although 36.4% reported that there were support services needed which were not being provided.

The suggestions for improvement provided by the C/A's included the establishment of or improvement of advisory committees, improved coordination, and provision of a plan of implementation. In addition, it was suggested that follow-up studies be conducted for all vocational areas. Establishment of or improvement of placement services were also suggested.

Parent Survey

Surveys were completed and returned by 126 parents, or approximately 20.2%, from the nine high schools. This response rate was not an improvement over that achieved in Oregon.

Of those responding, 68% were the students' mothers (one was a female guardian). Fifty-three percent of the parents were classified in white collar occupations, 16% were classified as homemakers, and 25% were in blue collar or other occupations. Approximately 4% were unemployed. Over half of the parents reported their students occupational programs as either business and office, trades and industry, or technical.

Over 90% of the parents reported that they liked the idea of their child entering vocational education in high school, and 85% felt that it is highly important that vocational education programs be kept in high schools. Slightly over 87% felt that a high school student completing a vocational education program has a better chance of getting a job than students without training.

Parents were asked to rate the degree of improvement they had noticed in their child since enrollment in vocational education. The

items and responses are presented in Appendix P. Over 75% rated their child as at least somewhat improved on most items. The items receiving the highest percentage reporting "no change" included: willing to take on added responsibilities at home or in school, and willing to do things without being asked first. Those receiving the highest percentage of "very improved" included: willing to learn new things, doing work that meets acceptable standards, and understanding the importance of being productive on the job.

As shown in Appendix Q, 30-40% of the parents were very satisfied with the assistance their child had received in vocational counseling, job placement, obtaining current occupational information, and getting supervised work experiences. Close to 38% were very satisfied that their child had received the necessary occupational skills to get an entry-level job. However, between 15-24% of the parents were not satisfied with the vocational assistance their child had received, and 11.2% were not satisfied with their student's occupational skills. Nevertheless, 52% were very satisfied with their child's overall vocational education program.

Fourteen percent of the parents reported having a handicapped student enrolled, and of those, 60% indicated that the student was being provided with additional services to assist them in vocational education. Of those with a student receiving handicapped services, all were satisfied with the services.

Suggestions for Improvement

The parents' suggestions for improving the vocational programs were varied. It was suggested that better articulation with the community, including the business community was needed. Publicity to the community about the vocational programs was also suggested. As with other groups, the parents felt that more and better career counseling was needed, as well as more emphasis on employability skills and job-seeking skills. They would like to see expanded vocational curricula, more supplies and materials, and teachers with better occupational experience. It was also noted that parents needed more information about their student's cooperative work experience.

Comparisons Across Groups

The individual survey questionnaires were constructed so that some common items would appear on surveys for two or more respondent groups. Comparison of the results of ratings by the coordinator/administrators (C/A) and teachers revealed some disagreement as well as agreement. They agreed in their more positive rating of realistic instructional experiences, and on their lower rating on the vocational counseling and the supply of equipment and materials, the adequacy of the physical facilities, the availability of cooperative work experience, and the adequacy of program coordination and of program advisory councils. Over 70% of both C/A's and teachers thought most of their vocational

completers were aware of available post-secondary programs and their content. Of the 23% of vocational seniors who were aware of programs available, 59.4% indicated that they knew about the post-secondary courses or general content. The mean scores of the raters are presented in Appendix R.

The areas of disagreement were more numerous. Teachers rated the quality of instruction higher than did the C/A's, and rated the available equipment much lower than did the C/A's. As for preparation of their completers, the teachers rated the students' preparation higher in interpersonal skills, but lower than the C/A's on math skills. On job hunting skills, the C/A's gave higher ratings than the teachers.

When the twelfth grade vocational students were compared with the teachers and C/A's, they proved to be more optimistic in most areas. However, the students were in agreement with the others in giving lower ratings on career counseling, and even lower ratings on job placement assistance. The only item on which the students rated lower than did the teachers or C/A's was on their vocational skills necessary to get an entry-level job. In addition, both the students and the teachers gave relatively lower ratings on the student's readiness in preparing resumes.

Comparing teachers and C/A's again, on how well the programs have met the standards for vocational education, more teachers felt that the programs were meeting labor market needs and reflecting the emerging occupational trends. However, more C/A's felt that the programs were adequately collaborating with the rest of the school and with business and industry. On the other hand, a higher percentage of the teachers than C/A's felt the programs were fully meeting the standard on collaboration with post-secondary programs. There was agreement concerning the programs increasing the attractiveness of the community for economic development—most felt this standard was only partially being met.

RESEARCH DESIGN, PART II

Rationale

One of the objectives of the second study was to further research the issues on effectiveness which were important to Vocational Education in Arizona. As mentioned earlier, a primary goal of Arizona Vocational Education is the preparation of students for career activities. In response to that goal, and to complement Part I, the second study emphasized the employment and further education experiences of 1981 high school graduates from both vocational and nonvocational programs. Darcy's (1980b) research on vocational education outcomes represents a synthesis of the literature, consequently his key outcomes were used as the basis for selecting the outcomes which would be appropriate criteria for judging effectiveness in this study.

The outcomes were chosen for their congruence with the conceptual context and scope of the project. The categories presented in the earlier section on context served as a guide in selecting the outcomes, which are presented in Table 27. The approach used to investigate these outcomes was a blend of naturalistic and case study, using face-to-face interviews. This approach was selected because of the potential for collecting in-depth information which is not possible in a questionnaire or telephone interview format. By interviewing 1981 graduates, the survey data from the current students in the replication would be supplemented by information on what is actually happening to graduates. In addition, by collecting data through interviews, it was expected that the in-depth information would provide a more rounded view of the experiences of graduates.

Table 27

Effectiveness-Related Vocational Education Outcomes

-
-
1. Development of basic skills
 2. Development of useful occupational skills
 3. Acquisition of world-of-work knowledge
 4. Educational commitment
 5. Reduced risk of unemployment
 6. Reduced job-search time
 7. Relatedness of job to high school training
 8. Former student satisfaction with work
 9. Higher earnings
 10. Employer satisfaction
 11. Former student satisfaction with preparation for career activities
 12. Post-secondary educational success
 13. Relatedness of post-secondary education to high school training
-

The purpose of this research design was to explicate and understand the phenomenon of effectiveness by describing the dynamics involved in the outcomes of vocational education. Since it appears that the more conventional experimental or survey methods of many studies on the subject are unable to make conclusive statements about effectiveness, it seemed that this would be an opportunity to generate rich, albeit subjective, data that will help in the development of future empirical research.

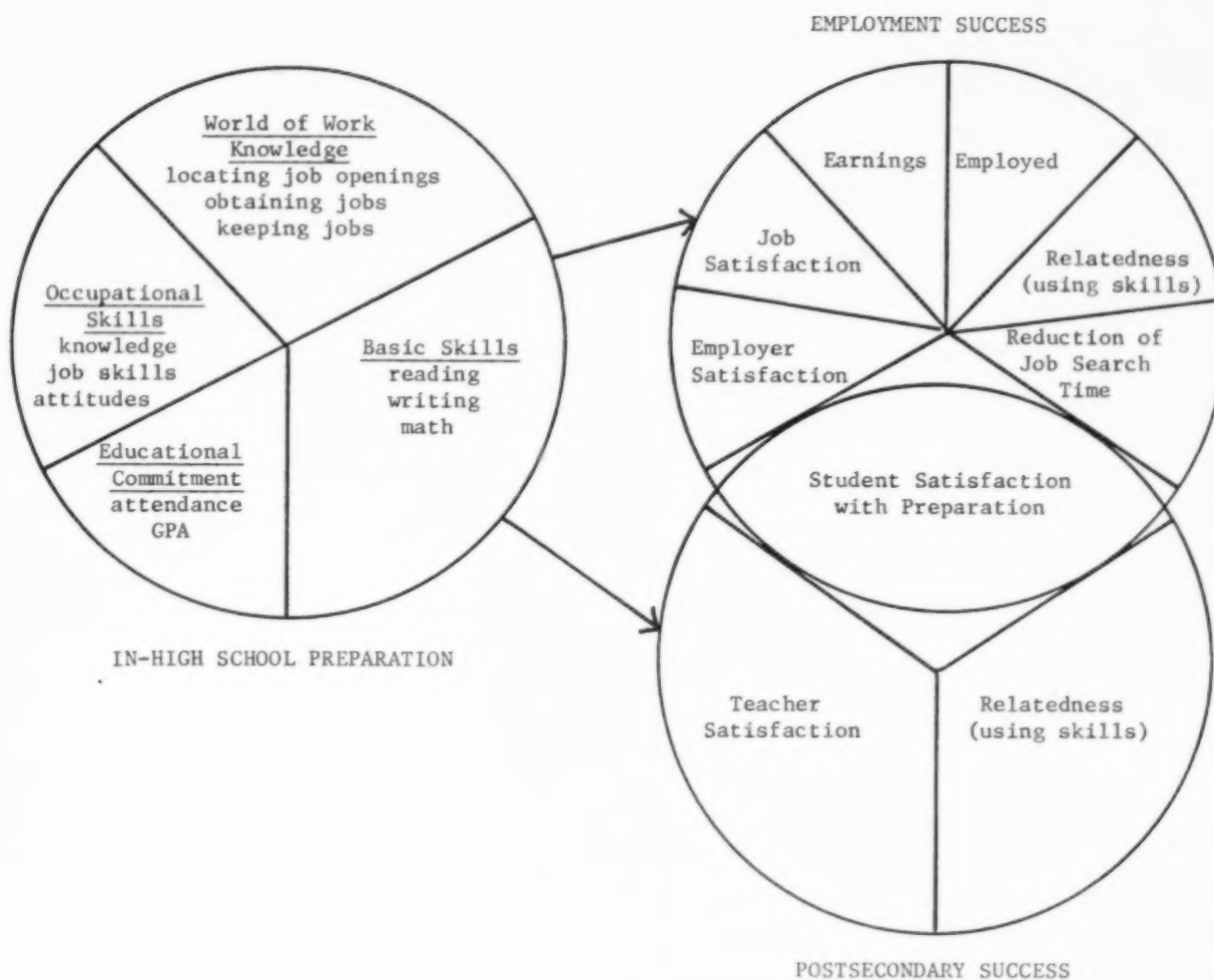
Development of Indicators

Empirical indicators of the outcomes were selected through the review of the literature. A model of the outcomes as criteria for effectiveness is presented in Figure 1. The discussions reviewed included: McKinney et al., 1978; Copa, 1980; Felstehausen, 1973; Abramson, et al., 1979; Grasso, 1979; Franchak and Spierer, 1978; the National Institute of Education, 1981; and Darcy, 1980b. As previously pointed out, there is little consensus about the usefulness of many of the criteria suggested for judging vocational education--many of the indicators used are faulted for one reason or another. Therefore, though many of the commonly used indicators were selected, an attempt was made to cross-validate the data wherever possible, by using multiple indicators or by obtaining similar information from more than one source.

The outcomes used as criteria for effectiveness, and the empirical indicators used in developing the interview instruments, are presented in Table 28.

Research Design

The research design called for interviewing 1981 graduates from two urban high schools and two rural high schools. Ten graduates were to be interviewed from each school, half from the general (non-college-bound) curriculum, and half vocational education completers as defined in literature on the state Vocational Education Data System (VEDS). In addition, the graduates' employers were to be interviewed, or, if educational activities were presently more significant, an instructor would be contacted for an interview. Finally, the graduate's high school records were to be reviewed, and appropriate teachers contacted.



Outcomes as Criteria for Vocational Education Effectiveness

Figure 1

Table 28

Adequacy of Preparation for Career Activities

Issue	Outcome	Indicators
In-high School Preparation	Development of basic skills	Test scores, grades: reading, writing, math
	Development of useful occupational skills	Test scores, grades, and teacher ratings: knowledge, job skills, & attitudes
	Acquisition of world-of-work knowledge (employability skills)	Teacher ratings on skills: Finding job openings, applying for jobs
After High School Employment	Reducing the risk of unemployment	Employment status, length of time unemployed
	Reducing job-search time	Length of time finding first job
	Relatedness of job to high school training	Student rating, job classification
	Former student satisfaction with work	Rating scale
	Higher earnings	Average hourly wages
	Employer satisfaction	Rating scale
	Former student satisfaction with preparation	Rating scale
Education	Post-secondary educational success	Instructor satisfaction, rating scales, grades
	Relatedness to high school training	Student rating

Table 28 Continued

Issue	Outcome	Indicators
Education	Student satisfaction with preparation	Rating scale

Instrumentation

Four interview instruments were constructed in order to obtain the information described above. These included interview guides for: (1) 1981 graduates, (2) their employers, (3) a current post-secondary instructor, and (4) high school records and evaluations by teachers. All of the guides included open-ended questions as well as rating scales. Resources used in developing the interview questions included handbooks on follow-up studies prepared by the National Center for Research in Vocational Education (Franchak and Spirer, 1978, 1979), and Eninger's vocational education effectiveness study. Each instrument was pilot-tested on a minimum of three individuals.

The interview with the graduates was designed to collect data on high school program, education and training since high school, employment experiences during and since high school, job satisfaction, and satisfaction with high school preparation for their employment and education experiences after graduation.

If employment was the graduate's major career activity, their immediate supervisor was interviewed. The interview obtained information on the following: the graduate's position with the company; the skills necessary for the job which the supervisor perceived the graduate possessed or lacked; and the supervisor's rating of the graduate on potential for advancement as well as on skills, attitudes, and performance.

If educational activities were the current career emphasis of the graduate, an instructor who was thought to be familiar with their course work was interviewed. The interview included ratings of the student's preparation for the class, and of skills, attitudes, and performance.

Finally, a form was designed to collect information from the graduate's high school records and teachers from tenth through twelfth grades. The information included GPA, class standing, and attendance, as well as disciplinary referrals and participation in youth groups. Also included were grade and standard test scores for basic skills and occupational skills, grades and teacher ratings for employability skills, and a teacher rating for overall preparedness.

Procedures

Sample

Two urban and two rural schools were selected and asked to participate in the study. Each school was given instructions for randomly selecting a sample of 1981 graduates: seven nonvocational and seven vocational education completers. The school was asked to provide the names and addresses for each graduate to the project staff, who then located telephone numbers for personal contact. It was felt telephone contact to request participation in the study would have a better probability of obtaining a positive response than would a letter.

Sampling Procedure Limitations

Some of the problems encountered with the approach to obtaining interviewees are as follows:

- (1) One of the initial rural schools did not have any graduates not meeting the definition of a vocational education completer.
- (2) Some of the schools were unable to follow the sampling directions as they were unable to access a list of graduates in which their program was identified.
- (3) Even when the school contact person accessed student files in order to select subjects, there was not always a clear distinction between vocational education (VE) and nonvocational (NVE) students. Consequently there were people in each group who could have been in the other group, and there were college bound in each group.
- (4) The desired sample from each school was ten; even though four additional names were supplied this did not prove to be enough. About 50% could not be contacted because of unlisted numbers or no telephone, and another 10% had moved and could not be located. As a result, it was necessary to obtain a minimum of 28 names from each school before ten participants were located.
- (5) Because of appointments missed by two of the prospective interviewees, 38 interviews were completed, rather than 40. Scheduling and time constraints made it impractical to replace them.

Data Collection

To the extent possible, telephone numbers were located for each person on the list provided by the schools. When numbers could not be located from the usual sources, others were tried, such as family,

friends, librarians, and so forth. When a valid number was found and the prospective subject contacted, the project and interview process were explained in some detail, followed by a request for their participation. Only three such calls ended in a refusal. The rest responded positively and agreed to an appointment for the interview. Approximately 30 percent of the interview sites were at their home (usually their parents' home), and the rest were in libraries or other public places, mostly after work.

Before the interview proceeded, the project and interview were again briefly explained, and the subject was asked to read and sign a consent form. The form consisted of an explanation of the project and interview (as before, this included all of the data collection procedures--employer interviewers, etc.), and a release for employers and schools to be contacted. In only one case did the graduate indicate a preference that their employer not be contacted.

The interviews with the graduates took about 35 minutes to conduct on the average. At the conclusion, they were asked for the name, location, and telephone number of their immediate supervisor or instructor, depending on whether school or work was their most significant career activity.

If time and resources permitted, the immediate supervisor was contacted in person for an interview. However, in the majority of cases this was inconvenient for the supervisor as well as the interviewer. Consequently, most of the supervisors and instructors were contacted by telephone. For the most part, they were all very cooperative in providing the information requested. The supervisor and instructor interviews each took about ten minutes on the average.

Upon securing releases for all interviewees from one school, a visit to the school for purposes of obtaining the necessary performance information was arranged. This was usually done through the principal's office in cooperation with district staff. The data collection procedure mainly involved researching the graduate's permanent records, and then locating and interviewing appropriate teachers.

Data Collection Limitations

The problems encountered in data collection concerned high school records and post-secondary instructors. One of the limitations on obtaining information from high school records was that the permanent records did not contain uniform information from district to district. Grading scales included the use of two different numeric variations (A=1 or A=4) and letter grades. Some had attendance information on the permanent record, most did not. Some had overall grade point averages (GPA), others did not. Nor did all include class rank on the permanent record.

The design also called for teacher ratings and test scores on occupational skills and employability skills. This information was not available for several reasons:

- (1) there were no standard test scores for vocational courses as part of the permanent record;
- (2) teachers were unable to recall particular students and their performance;
- (3) many teachers were no longer with the schools;
- (4) there had been changes in the curricula which made it difficult to pinpoint in which courses specific skills had been taught.

Collection of data on the graduates' post-secondary education experiences posed somewhat different problems. Most of the graduates who were currently enrolled were also working. Their instructors were contacted (instead of employers) only if the school experience was of primary importance and then only if there was an instructor who would be familiar enough with the student's work to answer the questionnaire. With all those conditions, the result was that few instructors were interviewed. In addition, among those who were interviewed, some were unable to provide the type of information requested.

FINDINGS

Due to the data collection limitations described above, the following kinds of information were not collected: class rank, attendance, standard test scores on occupational skills, and teacher ratings on employability skills. The ensuing discussion deals only with data which were successfully gathered.

High School Performance

The most outstanding characteristic of the two groups studied in this investigation is their similarity. In high school they had average grades in the basics (math, reading, writing), and their achievement test scores were also average. The overall grade point averages of both groups were more likely to be above average. Nevertheless, several people in both groups said that they had not applied themselves enough, that classes were not hard enough, and/or that graduation requirements should be stiffer.

It was interesting to note that over half of the nonvocational education graduates had taken some occupational courses, "to learn job skills." In addition, all but one or two people in each group had jobs while they were in high school, although very few received school credit for their jobs.

After High School: Employment

Since high school, the two groups of graduates have also had similar employment experiences. Only one person out of the two groups was currently unemployed and not going to school at the time of the interview. The rest were working, or going to school, or both. Many have not been unemployed for any significant amount of time since graduation, however most have had more than two jobs since leaving school. For a quarter of the vocational graduates and fifty percent of the nonvocational graduates, their first job after graduation was the same one they had before graduation. If they have been unemployed, the amount of time spent unemployed and looking was usually under six months.

The types of jobs the graduates had worked in since graduation were generally low skill, low-paying jobs, such as grocery store baggers, gas station attendants, or fast-food service. The exceptions on the skill level of jobs seemed to come in the areas of clerical, cosmetology, and trades and industry (specifically industrial fabrication and machine shop). Those jobs did require a specific skill, and the people with those types of jobs were usually vocational education graduates.

Between their first and current jobs, hourly wages of the two groups had increased from a median of between \$3.00-\$4.00 to a median of \$4.00. At the time of the interview, about half of the vocational graduates were working in jobs related to their training. This was an improvement over their first jobs, when only one third were in related occupations.

Considering a list of items such as salary, benefits, and potential for advancement, the graduates in both groups were satisfied with their current jobs overall. In responding to questions about what they liked about their current jobs, the vocational graduates frequently mentioned their co-workers, dealing with the public, and working in an occupation for which they were trained. Nonvocational graduates most often mentioned their relative autonomy and dealing with the public. Both groups frequently mentioned physical demands as one of the things they liked least about their jobs.

The immediate supervisors of the two groups rated these employees average to above average in comparison with other employees. The majority of both groups were ranked in the top 25%. When asked about skills and attributes these graduates possessed for the job, the vocational graduates' supervisors most frequently mentioned skills or training specific to the position. They also emphasized being good with people, and some mentioned that their employees were fast learners and due to a variety of personal attributes, they were good workers.

The supervisors of the nonvocational graduates, when asked about skills the graduates possessed for their jobs, most often mentioned their ability to deal with people. A wide variety of personal attributes was also cited, such as honesty, ability to learn quickly, and appearance.

The supervisors were also asked about the skills they thought the graduates lacked. There were supervisors in both groups who strongly expressed the opinion that graduates in general were not well enough prepared in the basics--math and English. However, most of the supervisors did not note any lack of skills. In a few cases, supervisors of graduates in both groups mentioned a lack of some specific job skills. The graduates' potential for advancement was rated by their supervisors as good to excellent for the majority of both groups.

In responding to questions about their satisfaction with their high school preparation for work or school, over half of both groups gave their school program a "B". However, while approximately 27% of the former vocational students gave their program an "A", the same proportion of the nonvocational graduates gave a grade of "C". Vocational graduates were more satisfied with their choice of training, and were able to apply what they had learned more often. Several nonvocational graduates either said they wished they had taken occupational courses, or more of them. To the extent that it applied to them, both groups felt their training with tools and equipment had been useful. Both groups also felt that their high school training had been useful in getting their jobs or being able to get along in their present classes. The vocational graduates were more satisfied with the information provided about employer expectations, and tended to feel the training experience they received was adequate preparation for work.

When asked what best prepared them for their jobs, the most frequent response from the nonvocational group was previous experience. Vocational graduates' most frequent responses were divided among previous experience, personal ability, and school in general (as opposed to vocational courses). However, when asked which high school skills they used on the job (this was asked for each job), a large percentage of both groups mentioned vocational course-related skills. The second largest response category for both groups was "none".

After High School: Education

A large percentage of both groups had participated in post-secondary education, although there were somewhat more in the nonvocational group. Over half of the nonvocational group had gone to a university, the rest usually had attended a community or junior college. Most were seeking a degree of some kind. For the vocational group, the reverse was the case, with over half having attended a community college. Upgrading their general education or their vocational skills were the main reasons most of the vocational group had returned to school. Almost half had completed a two-year degree/certificate program.

Among those currently enrolled, the vocational group had taken an average of 40 credits, and the nonvocational had taken an average of 50 credits. Both groups had GPA's in the "B" range. Although half of the vocational group had taken or were taking courses in vocational areas,

slightly over half of them reported that their area of post-secondary study was not related to what they had studied in high school.

Vocational Graduates' Suggestions for Improvement

The vocational graduates were asked at the end of the interview for their suggestions for improving their high school's vocational program. The suggestions were varied, and ranged from suggestions for stiffer graduation requirements (more math, English, science), to more community involvement by students. They saw a need for more up-to-date equipment, especially concerning computers, and more classes in computers. Several thought more discipline was needed, as well as harder classes and more homework. They suggested more emphasis on job-seeking skills and more career counseling. It was also suggested that teachers need to be better acquainted with what employers expect, and that classes need to be more stimulating, with more hands-on experience.

Chapter 4

IMPLICATIONS

It is probably not realistic to expect these two studies to provide a definitive or concluding statement about the effectiveness of vocational education in Arizona. However, they have brought out some interesting points and from those points a finer focus on vocational outcomes.

As might be expected, employment appears to be a major issue. Let us review some of the findings. A significant portion of students in both curricula work during the school year, and apparently vocational students are working more hours than nonvocational students. The vocational students in school had a more positive attitude towards their work experiences. In addition, the vocational students were more satisfied with their vocational coursework than with their overall, nonvocational education. Over a third of the vocational seniors had participated in Cooperative Work Experience. For about one-quarter of the vocational graduates, their first job after graduation was the same job they had had while in school. During school, one-half of the vocational seniors reported that their job was related to their high school training. Only about one-third of the vocational graduates reported their first job to be related to what they studied in high school.

It appears then, that during school, work is a significant part of students' lives. The above information suggests that more emphasis on, and adequate collaboration with Cooperative Work Experience could increase the relevance of the vocational curriculum to the student. This need is indicated by the low ratings given by teachers and administrators to the availability of Cooperative Work Experience.

The vocational seniors felt fairly well prepared for the world of work, and the graduates tended to feel that they had received adequate preparation in high school for the world of work. The employers interviewed seemed to feel that the vocational graduates had the necessary job skills for their positions. Teachers and administrators rated the students' entry-level skills fairly high, and yet the students gave somewhat lower ratings on those skills. However, when asked what best prepared them for their jobs, the graduates most frequently mentioned previous experience and personal abilities.

From the above, it could be concluded that vocational education is indeed preparing students for the world of work. However, in order to answer the question of whether vocational education does a better job than other curricula, a more focused study would be required.

It should be noted that several of the employers interviewed expressed dissatisfaction with graduates in general concerning their

preparation in the basics—reading, writing, and math. This is perhaps reflected in the scores of both groups on the standard tests administered with the questionnaires. There was no significant difference between students in the two curricula in tenth grade on either test, or between the two twelfth grade groups in math. However, the nonvocational seniors scored somewhat higher than the vocational students in reading.

The test results and the higher grades reported by the nonvocational students may suggest some truth to the widely held belief that vocational programs attract low-achievers. But comments from the graduates suggest that perhaps this topic needs more in-depth study. Many of the vocational graduates expressed the feeling that they could have worked harder in school. They frequently indicated that they did not apply themselves, that they took easy classes, and that perhaps graduation requirements should be stiffer—with more emphasis on courses in the basics. Motivation, rather than aptitude, may be a decisive factor in this issue.

Finally, it appears from the interviews in Part II that many vocational education graduates go on with their education. Indeed, the percentage in this study was much higher than thought by most teachers and administrators. In Part I, over half of the vocational seniors planned to take further training. In addition, the vocational graduates felt that their high school training had been useful when applied to post-secondary education, although some felt that they were not adequately prepared in math and English for college-level courses. The implication is clear for the need for adequate collaboration and articulation with post-secondary programs.

From the information collected from the parents, teachers and administrators, it appears that job placement, vocational counseling, and cooperative work experience programs need improvement in the schools. Once again, these services may be crucial to helping the students to make successful transitions from school to career activities. Also from the perspectives of teachers and administrators, progress in the use and establishment of advisory councils appears to be a significant source of potential program improvement.

Chapter 5

RECOMMENDATIONS

The goals of these studies were to: (1) provide awareness of possible outcomes of vocational education, and of its perceived strengths and weaknesses, and (2) to further research issues on effectiveness important to vocational education in Arizona. Limitations on the instruments used and the data collection made it difficult to verify the outcomes and issues to the extent hoped. However, based on the research as conducted, it is possible to make some useful recommendations concerning future research needs and potential areas of improvement for vocational education at the secondary level.

TO IMPROVE THE RESEARCH ON OUTCOMES

1. The foremost need for research in Vocational Education is to have established at the state level a definition of, and consensus on, the intended outcomes of vocational education. With that direction provided, clearly specified criteria and standards of performance should also be developed, on which to base future research efforts.
2. Once competencies are in place, the potential for obtaining information on occupational skills, job-hunting skills, and job-keeping skills will be enhanced. The need for that information in future research efforts should be kept in mind as the data collection system evolves.
3. When possible, future studies should be designed so that a balance of factual and qualitative data can be provided, using archival data sources whenever practicable.
4. More research studies on vocational education outcomes should concentrate on a particular subject or outcome, so that more focused data can be collected. In that same vein, scales for attitude measurement, etc., should be constructed to allow for a wider range of responses, thus allowing a more accurate demonstration of actual variation. Some recommendations for more focused studies are:
 - a. A longitudinal study to provide more reliable information as to what is happening to graduates in the labor market, particularly with job classification, potential for advancement, and earnings.
 - b. An employer study to discern whether Arizona employers actually demonstrate a hiring preference for vocational education completers and why or why not.

- c. The extent to which vocational courses have helped prepare nonvocational graduates for employment could be explored by seeking information from graduates as to which high school courses have been most helpful in finding work and most helpful on the job.
- d. The relationship between cooperative work experience and training-related employment for Arizona vocational completers should be explored further.
- e. More research is needed on what motivates vocational students, or could motivate them.

5. A follow-up study methodology is suggested in which a sample of graduating seniors is selected of students who would agree to be contacted about their post-high school educational and labor market experiences, and who would agree to permit their employers and instructors to be contacted. Using a valid sample size and mail questionnaires, this would allow for analysis on employer and instructor satisfaction in which results on vocational and nonvocational students could be compared. Such a method would be preferable to current methods in which the employer is expected to know whether the employee in question was a vocational or nonvocational student. In addition, when examining post-secondary experiences, only full-time students in a specific program should be sampled, in order to obtain verifiable information.

6. Data-collection needs to be supported by standardized record-keeping procedures statewide. The following would be helpful:

- a. Establishment of a method to clearly distinguish vocational and nonvocational completers.
- b. Standardized competency indicators for vocational students on some kind of accessible record, including indicators for employability and employment survival skills.
- c. Attendance (such as number of days missed) as part of an accessible record.

TO IMPROVE VOCATIONAL PROGRAMS

In light of comments received from teachers and coordinators/administrators concerning program components and standards, schools may want to explore ways to improve the following:

- 1. Vocational program coordination
- 2. The meeting of local labor market needs

3. Collaboration between the programs and the business community.
4. Articulation with post-secondary training programs (particularly since over half of the vocational students indicate that they plan to continue their education)
5. The ability of the programs to reflect emerging trends in their occupational fields.

Questionnaire responses and suggestions for improvement from the various groups lead to the following recommendations:

1. Vocational counseling, job placement, and cooperative work experience are in need of improvement. This should include determining where the responsibility for providing these services lies, and what is the best way to deliver them.
2. Advisory councils are either not being used or are not being used effectively. A possible linkage is suggested whereby advisory councils may be a valuable resource in enhancing the services mentioned in (1).
3. Make the vocational programs more rigorous--which may require higher levels of skill development in the basics (math and English).
4. Equipment and materials are lacking in some cases, and need to be more up-to-date, and physical facilities are in need of improvement.
5. Teachers and counselors need to be aware of students' need for vocational counseling and direction at an early stage; in addition, there seems to be a feeling that such counseling should be provided on a mandatory basis.

REFERENCES

- Abramson, T., Tittle, C. K., and Cohen, L., eds. Handbook of Vocational Education Evaluation. Sage Publications, Beverly Hills, 1979.
- Campbell, P. B., Gardner, J. A., and Seitz, P. High School Vocational Graduates: Which Doors Are Open? Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1982. R & D Series No. 226.
- Copa, G. H. and Forsberg, G. D. Measuring the Employment and Further Educational Effects of Secondary Vocational Education in Minnesota. Minneapolis: Minnesota Research and Development Center for Vocational Education, University of Minnesota, 1980.
- Cronin, J. M. A Research Agenda for Vocational Education. Voc Ed, September 1980, pp. 50-51.
- Darcy, R. L. Defining the Basis for Judgement. Voc Ed, September 1980(a), pp. 31-32.
- Darcy, R. L. Some Key Outcomes of Vocational Education: A Report on Evaluation Criteria, Standards, and Procedures. The Ohio State University, Columbus, Research and Development Series No. 192, 1980(b).
- Eninger, M. U. Effectiveness Evaluation Data for Major City Secondary Educational Systems in the U.S. Vol. IV: Survey of Class of '70 Graduates Vocational Education Programs. Educational Systems Research Institute. Pittsburg, PA. (ERIC Document Reproduction Service No. ED 088 991).
- Felstehausen, J. L. and Others. Follow-up Report on Illinois "Class of '71 Occupational Program Alumni. Final Report. Charleston, Illinois: Eastern Illinois University, Center for Educational Studies, 1973. (ERIC Document Reproduction Service No. ED 087 866).
- Franchak, S. J. and Spirer, J. E. Evaluation Handbook, Vol. 1: Guidelines and Practices for Follow-Up Studies of Former Vocational Education Students. The National Center for Research in Vocational Education, The Ohio State University, Columbus, Research and Development Series No. 171, 1978.
- Franchak, S. J. and Spirer, J. E. Evaluation Handbook, Vol. II: Guidelines and Practices for Follow-Up Studies of Special Populations. The National Center for Research in Vocational Education, The Ohio State University, Columbus, Research and Development Series No. 171, 1978.

- Grasso, J. T. Impact Evaluation in Vocational Education: The State of the Art. The National Center for Vocational Education, The Ohio State University, Columbus, Information Series No. 157, 1979.
- Guba, E. G. Toward a methodology of naturalistic inquiry in educational evaluation. Bloomington: School of Education, Indiana University, Unpublished manuscript, Feb. 1978.
- Lotto, L. S. Naturalistic Inquiry: Paradigm and Method. Montreal: Presented at the annual meeting of the American Educational Research Association, April, 1983.
- McKinney, F. L.; Gray, Kenny; and Abram, Marie. Interpreting Outcome Measures in Vocational Education: A Final Report. Columbus, OH: National Center for Research in Vocational Education, The Ohio State University, Sept. 1978.
- The National Institute of Education. The Vocational Education Study: Final Report. Vocational Education Study Publication No. 8. Washington, D.C., 1981.
- Orlich, D. C. Designing Sensible Surveys. Redgrave Publishing Company, Pleasantville, 1978.
- Owens, T. and Vinarskai, E. Examining the Impact of High School Vocational Education. Paper presented at the annual meeting of the American Educational Research Association in Montreal, Quebec, April 1983.
- Owens, T. R. Implementation of the Oregon Vocational Education Secondary Effectiveness Study. Final Report. Portland, Oregon, Northwest Regional Education Laboratory, August 1982.
- Rossmann, M. A. M. Job Relatedness as a Criterion For Assessing Vocational Program Effectiveness. Unpublished doctoral dissertation, University of Minnesota, 1977.
- Russell, E. B. and Miller, J. V. Resources on Evaluating Vocational Education Effectiveness. Voc Ed, September 1980, p. 64.
- Treiman, D. J. Occupational Prestige in Comparative Perspective. Academic Press, New York, 1977.
- Venn, G. Criteria Against Which Vocational Education Should be Held Accountable. In F. L. McKinney and Others, Interpreting Outcome Measures in Vocational Education: A Final Report. Columbus, Ohio: The National Center for Research in Vocational Education, 1978. (ERIC Document Reproduction Service No. ED 167 773).

APPENDIX A

;

12th Grade Vocational Education Students



VOCATIONAL EDUCATION

EFFECTIVENESS STUDY

Spring 1983

ARIZONA CENTER FOR VOCATIONAL EDUCATION

Box 6025

Flagstaff, Arizona 86011

Administered by Northern Arizona University



The Arizona Center for Vocational Education is studying the effectiveness of vocational education in Arizona high schools. The Center is an educational organization affiliated with Northern Arizona University.

The study is intended to help local schools plan and provide quality vocational education programs for Arizona's young people.

By completing and returning this questionnaire, you will have given your consent to include your responses in our study. However, all of your responses will be kept STRICTLY CONFIDENTIAL. All of the questionnaire data will be kept in the offices of the Arizona Center for Vocational Education, and will be accessible only to Center personnel. You may withdraw your consent to participate at any time.



Arizona Center for Vocational Education
Box 6025
Flagstaff, Arizona 86011
(602) 523-5442

Administered by Northern Arizona University

Prepared by the Northwest Regional Educational Laboratory, Portland, Oregon,
and modified by the Arizona Center for Vocational Education, Flagstaff, Arizona.
These materials do not, however, necessarily reflect the views of those agencies.

SPRING, 1984

VOCATIONAL EDUCATION STUDENT SURVEY

TWELFTH GRADE LEVEL

School _____

(1-5)*

This survey will be used to help us learn about the vocational education program in your school. Your answers will be combined with those of other students and never identified with you. Please answer each item as well as you can. However, if there is anything you do not wish to answer, feel free to omit that item. Thank you for your help!

1. In which of the following vocational education program areas are you enrolled? (CIRCLE ONE NUMBER)

(6)

- Agriculture (Forest Products) 1
- Business and Office (Accounting, Clerical,
Secretarial) 2
- Distributive Education
(Food Service, Marketing) 3
- Health Occupations. 4
- Home Economics Occupations (Child Care,
Clothing, Institutional and Home
Management Service) 5
- Technical (Electronics, Mechanical) 6
- Trade and Industry (Construction,
Drafting, Forest Products, Graphics,
Metals, Service). 7

2. How long have you been taking vocational education courses in the area you are now enrolled in?

(7)

- Less than one month 1
- Year { 1 - 4 months 2
- One { 5 - 9 months 3
- Year { 10 - 13 months 4
- Two { 14 - 18 months 5
- Year { 19 - 22 months 6
- Three { 23 - 27 months 7
- More than three years 8

*Please ignore the numbers in parentheses; they are for keypunching purposes only.

3. What is the main reason you decided to enter a vocational educational program? (CIRCLE ONLY ONE NUMBER)

(9)

- My friends were in the program 1
 I wanted to learn specific job skills 2
 I didn't like the general school courses 3
 My parents or relatives advised me to enroll 4
 I have an interest in the area 5
 My counselor or teachers advised me to enroll 6
 Other reason (Please state) 7

4. How satisfied are you with the following aspects of your current high school vocational education program? (CIRCLE ONE NUMBER rating for each aspect. For example, if you are satisfied with the quality of instruction, circle 2. If you are very dissatisfied, circle 4. If you have not had experience with some aspect(s), circle DK, "Don't Know".)

	Very Satis- fied	Satis- fied	Dissat- isfied	Very Dissat- isfied	Don't Know	
Quality of the instruction	1	2	3	4	DK	(10)
Occupational information available	1	2	3	4	DK	(11)
Help in finding a job after program completion	1	2	3	4	DK	(12)
Counseling about careers	1	2	3	4	DK	(13)
The instructional materials are up-to-date	1	2	3	4	DK	(14)
Paid work experience which is part of your vocational program	1	2	3	4	DK	(15)
Overall, how satisfied are you with the vocational education you have received in high school?	1	2	3	4		(16)

Very Satis- fied	Satis- fied	Dissat- isfied	Very Dissat- isfied	Don't Know
------------------------	----------------	-------------------	---------------------------	---------------

Overall, how satisfied
are you with the
general nonvocational
education you have
received in high
school?

1	2	3	4	(17)
---	---	---	---	------

5. If you had not had the chance to take the vocational education courses you selected the past two years in school, to what extent would you consider dropping out of school? (CIRCLE ONE)

(18)

I definitely would not drop out 1

I probably would not drop out 2

I probably would drop out 3

I definitely would drop out 4

6. As a result of your vocational education program, how well prepared do you feel in each of the areas listed below? (CIRCLE ONE NUMBER for each area.)

Very Well Prepared	Well Prepared	Not Well Prepared	Very Poorly Prepared
--------------------------	------------------	-------------------------	----------------------------

Vocational or technical skills you need to get an entry-level job	1	2	3	4	(19)
Knowing how to look for and obtain a job	1	2	3	4	(20)
Being able to follow directions	1	2	3	4	(21)
Willing to learn new things	1	2	3	4	(22)
Being on time for work or in completing tasks	1	2	3	4	(23)
Getting along with others	1	2	3	4	(24)
Preparing a job resume	1	2	3	4	(25)
Interviewing for a job	1	2	3	4	(26)

	Very Well Prepared	Well Prepared	Not Well Prepared	Very Poorly Prepared	
Using reading skills to do job tasks	1	2	3	4	(27)
Using math skills to do job tasks	1	2	3	4	(28)
Being aware of both the positive as well as the negative aspects of jobs	1	2	3	4	(29)
Understanding the importance of being productive on the job	1	2	3	4	(30)
Being able to use speaking and listening skills in work situations	1	2	3	4	(31)
Doing work that meets acceptable standards	1	2	3	4	(32)

7. How well do you feel your high school education will help you or prepare you for the first full-time year-around-type job you take after leaving high school? (CIRCLE ONE NUMBER) (33)

Will help me very much 1
 Will help me a little 2
 Will not help me at all 3

8. Are there programs available in community colleges, business schools, etc., that would provide more advanced training in the vocational area you are studying in high school? (CIRCLE ONE NUMBER) (34)

Yes 1
 No 2
 Don't Know 3

- If Yes, do you know about the courses or general content available in the program(s)? (CIRCLE ONE NUMBER) (35)

Yes 1
 No 2

9. After graduation do you plan to take further training related to your high school vocational education program? (CIRCLE ONE NUMBER) (36)

Yes 1

No 2

Don't Know 3

10. Within the next year, do you plan to get a job that is (CIRCLE ONE NUMBER) (37)

Directly related to your vocational education program? . . 1

Closely related to your vocational education program? . . 2

Not related to your vocational education program? 3

Don't know 4

11. Three years from now do you plan to be in a job that is (CIRCLE ONE NUMBER) (38)

Directly related to your vocational education program? . . 1

Closely related to your vocational education program? . . 2

Not related to your vocational education program? 3

Don't know 4

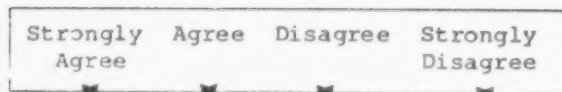
12. How do you feel about each of the following statements? (CIRCLE ONE NUMBER for each rating)

Strongly Agree	Agree	Disagree	Strongly Disagree
----------------	-------	----------	-------------------

I take a positive attitude toward myself	1	2	3	4	(39)
--	---	---	---	---	------

Good luck is more important than hard work for success	1	2	3	4	(40)
--	---	---	---	---	------

I am able to do things as well as most other people	1	2	3	4	(41)
---	---	---	---	---	------



Every time I try to get ahead, something or somebody stops me

1	2	3	4	(42)
---	---	---	---	------

When I make plans, I am almost certain I can make them work

1	2	3	4	(43)
---	---	---	---	------

13. What is the one thing that most likely will take the largest share of your time in the year after you leave high school?
(CIRCLE ONE NUMBER) (44-45)

- Working full-time 1
- Entering an apprenticeship or on-the-job training program . . 2
- Going into regular military service (or service academy) . . 3
- Being a full-time homemaker 4
- Taking vocational or technical courses at a trade or business school full-time or part-time 5
- Taking academic courses at a junior or community college full-time or part-time 6
- Taking technical or vocational subjects at a junior or community college full-time or part-time 7
- Attending a four-year college or university full-time or part-time 8
- Working part-time, but not attending school or college . . . 9
- Other (travel, take a break,) 10
- No plans 11

14. As things stand now, how far in school do you think you will get?
(CIRCLE ONLY ONE NUMBER) (46)

- Less than high school graduation 1
- High school graduation only 2

(Continued on next page)

Vocational, trade, or business school after high school:	Less than two years	3
	Two years or more	4
	Less than two years of college	5
	Two or more years of college (including two- year degree)	6
College Program	Finish college (four- or five-year degree)	7
	Master's degree or equivalent	8
	Ph.D., M.D., or other advanced professional degree	9

15. Which of the job categories below comes closest to the kind of work you do/did for pay on your current or most recent job? (If more than one kind of work, choose the one which paid you the most per week.) (CIRCLE ONE NUMBER)

(47-48)

- Have not worked for pay 1
- Lawn work or odd jobs 2
- Waiter or waitress in a restaurant or drive-in . . . 3
- Babysitting or child care 4
- Farm or agricultural work 5
- Factory work, unskilled or semi-skilled 6
- Skilled trade 7
- Other manual labor 8
- Store clerk or salesperson 9
- Office or clerical 10
- Hospital or health 11
- Other (Please state) 12

16. In describing your present or most recent job, would you say it
(CIRCLE THE NUMBER FOR EACH LINE)

Yes	No
1	2

- | | | | |
|--|---|---|------|
| Is a place where people goof off? | 1 | 2 | (49) |
| Is something you do just for the money? | 1 | 2 | (50) |
| Is more enjoyable than school? | 1 | 2 | (51) |
| Encourages good work habits? | 1 | 2 | (52) |
| Is more important for you than school? | 1 | 2 | (53) |
| Is directly or closely related to your
high school training | 1 | 2 | (54) |

17. The job described above is (CIRCLE ONE NUMBER) (55)

- A cooperative work experience job 1
- Another school-related job 2
- A CETA sponsored job 3
- Another type of job 4

19. How many hours do you normally work at a paid job or in a family business
during the school year? (CIRCLE ONE NUMBER) (56)

- None, do not work for pay 1
- 1 to 4 hours per week 2
- 5 to 14 hours per week 3
- 15 to 21 hours per week 4
- 22 to 29 hours per week 5
- 30 to 34 hours per week 6
- 35 hours or more per week 7

19. Did you do any work for pay last week, not counting work around the house? (CIRCLE ONE NUMBER) (57)

Yes 1

No 2

20. Which of the following activities have you participated in during this school year (not just in summer)? (CIRCLE ALL THAT APPLY)

Cooperative Work Experience (paid or unpaid) 1 (58)

CETA work programs (e.g., youth employment and training programs) 2 (59)

DECA 3 (60)

FBLA 4 (61)

FFA 5 (62)

FHA 6 (63)

FTA 7 (64)

VICA 8 (65)

HERO 9 (66)

OEA 10 (67)

Junior Achievement 11 (68)

Explorer Scouts which have a career focus 12 (69)

Background Information

We would like to know some information about you. This information will allow us to group the data in different ways for analysis.

21. Sex: (CIRCLE ONE NUMBER) (70)

Male 1

Female 2

22. Ethnic Background (CIRCLE ONE NUMBER)

(71)

- Asian or Pacific Islander 1
- Black 2
- White 3
- Hispanic 4
- American Indian/Native American 5
- Other (Please specify) _____ 6

23. What have your grades been like so far in high school? (CIRCLE ONE NUMBER)

(72)

- Mostly A's (a numerical average of 90-100) . . . 1
- About half A and half B (85-89) 2
- Mostly B's (80-84) 3
- About half B and half C (75-79) 4
- Mostly C's (70-74) 5
- About half C and half D (65-69) 6
- Mostly D's (60-64) 7
- Mostly below D (below 60) 8

24. What was the highest level of education your father (or male guardian) completed? (CIRCLE ONE NUMBER)

(73)

- Less than high school graduation 1
- High school graduation only 2
- Vocational, trade, or business school after high school {
- Less than two years . . . 3
- Two years or more . . . 4
- Less than two years of college 5
- Two or more years of college (including two-year degree) . . . 6
- College program {
- Finish college (four- or five-year degree) . 7
- Master's degree or equivalent 8
- Ph.D., M.D., or other advanced professional degree 9

25. What is your father's (or male guardian's)

(74-75)

Job title? _____

Job duties? (Give a brief description) _____

(Continued on next page)

26. What was the highest level of education your mother (or female guardian) completed? (CIRCLE ONE NUMBER)

(76)

Less than high school graduation 1

High school graduation only 2

Vocational, trade, or business school after high school { Less than two years . . 3

Two years or more . . . 4

Less than two years of college 5

Two or more years of college (including two-year degree) . . . 6

College program { Finish college (four- or five-year degree) . 7

Master's degree or equivalent 8

Ph.D., M.D., or other advanced professional degree 9

27. What is your mother's (or female guardian's)

(77-78)

Job title? _____

Job duties? (Give a brief description) _____

28. What suggestions do you have for improving vocational education at your school? _____

Thank you very much for your help!

(80) = "1"

GENERAL DIRECTIONS

This test has a 15 minute time limit. If you finish before time is called, go back and check your work. In order for this test to be the most useful to us, do not guess unless you are able to eliminate one or more of the answer choices.

- ▶ Mark all of your answers by filling in the oval for the appropriate answer.
- ▶ Use only a lead pencil.
- ▶ Make heavy black marks inside the oval.
- ▶ Be sure the entire oval is blackened.
- ▶ If you wish to change an answer, erase your first mark completely.

READING

Time—15 minutes

20 Questions

Directions: Each passage is followed by questions based on its content. After reading a passage, choose the best answer to each question and blacken the corresponding oval. Answer all questions following a passage on the basis of what is stated or implied in that passage.

Despite its problems, black television programming is at last a reality. However, stations broadcasting black programs usually are not supported by advertising. They operate on grants from such corporations as the Ford Foundation, which gives \$5 million a year for new programming. The programs may vary from talk shows to variety shows, such as New York's Soul, to cultural workshops, such as Boston's On Being Black. Chicago has an all-black nightly news show and Charleston features a show with information on job opportunities. Black television is a good thing because it provides professional experience for young actors and technicians (for the production of a television show is largely technical), a showcase for black talent, and an opportunity for white audiences to learn more about themselves as they learn more about the black man.

1. The passage states that black television usually gets money for its operation from
 - ☐ (A) advertising
 - ☐ (B) individual donations
 - ☐ (C) the government
 - ☐ (D) grants
 - ☐ (E) collections from audiences
2. The author implies that the production of any television program depends mainly on the skill of the
 - ☐ (A) actors
 - ☐ (B) writers
 - ☐ (C) announcers
 - ☐ (D) newscasters
 - ☐ (E) technicians
3. The author's feelings about black television programming can best be described as
 - ☐ (A) doubtful
 - ☐ (B) respectful
 - ☐ (C) sorrowful
 - ☐ (D) surprised
 - ☐ (E) scornful
4. Which of the following does the author list among the benefits of black television?
 - I. Providing experience for young actors
 - II. Giving white audiences a chance to learn more about themselves
 - III. Giving black people a chance to meet white people
 - ☐ (A) I only
 - ☐ (B) II only
 - ☐ (C) I and II only
 - ☐ (D) I and III only
 - ☐ (E) I, II, and III
5. Which of the following best describes the author's feelings about black television compared to white television?
 - ☐ (A) It has had hardships and still faces problems but is on the way to becoming as well established as white television.
 - ☐ (B) It is no different from white television in most respects and has adopted the standards of white television.
 - ☐ (C) It is technically better organized and more smoothly run than white television.
 - ☐ (D) It is more expensive than white television and has higher standards in the quality of its programs.
 - ☐ (E) It has a large audience and can afford to pay higher wages than are paid to white television technicians and performers.

GO ON TO THE NEXT PAGE.

One theory of the effect of sunspots is that they have great influence on the earth. This theory suggests that "spots" on the sun consist of great whirling, fiery storms. In years when there are

- (5) many sunspots, we have electric changes on our planet. There is much radio interference, and compasses on ships and planes do not point true. We have especially fine displays of northern lights. It is even believed that, in heavy sunspot years, (10) people are more active and have shorter tempers. But perhaps most important, heavy sunspot years are years of long droughts.

6. The author is most concerned with

- (A) describing sunspots
- (B) describing the effects that sun storms have on the earth
- (C) describing ways in which sun storms can be used by man
- (D) explaining how sun storms cause storms on earth
- (E) explaining how the effects of sun storms can be reduced

7. It can be inferred from the passage that storms occurring on the sun have the LEAST direct influence on which of the following?

- (A) Human behavior
- (B) Agriculture
- (C) Communication
- (D) Transportation
- (E) Industrialization

8. The author feels that the most important effect of sun storms is their effect on

- (A) radios
- (B) ships' compasses
- (C) weather
- (D) the northern lights
- (E) the behavior of people

9. The way that the passage describes the storms on the sun (lines 2-4) suggests which of the following disturbances on the earth?

- (A) Tornadoes
- (B) Blizzards
- (C) Earthquakes
- (D) Rainstorms
- (E) Droughts

Of all the forces reshaping the American city, the most powerful and insistent are those rooted in changing methods of transportation. The changes are so big and obvious that it is easy to forget how remarkable they are. The streetcar has all but disappeared, the bus is proving an inadequate substitute, commuter rail service worsens, subways get dirtier, and new expressways pour more and more automobiles into the center of town.

If transit riding continues to decline and if automobile use continues to rise unchecked, how can the vital core of the city survive? Many city planners say flatly that it cannot. The only sure way to relieve congestion and preserve the unifying core of the city, supporters of mass-transit claim, is to get people out of private automobiles and into public transit—"to move people not vehicles."

10. The author suggests that the remarkable changes in transportation are often overlooked for which of the following reasons?

- (A) They have taken place very gradually over the years.
- (B) They have proved to be more effective than old methods.
- (C) They are so obvious that they are taken for granted.
- (D) They have created new problems for city planners.
- (E) They have decreased congestion in the cities.

11. The author mentions all of the following as methods of transportation which have become less popular with commuters EXCEPT

- (A) the bus
- (B) the automobile
- (C) the streetcar
- (D) subways
- (E) railroads

12. The passage is primarily concerned with which of the following?

- (A) Various factors influencing the American city
- (B) The disappearance of the streetcar
- (C) The need for faster automobiles
- (D) The growing network of expressways
- (E) The effects of transportation changes on the city

13. According to the passage, many city planners feel that growing use of automobiles rather than public transit will result in

- (A) the construction of more and more expressways
- (B) the deterioration of the vital center of the city
- (C) the relief of congestion in the city
- (D) a decrease in commuter rail service
- (E) demands for limitations on the use of automobiles

Once upon a time the devil stayed at an inn where no one knew him, for they were people whose education had been neglected. He was bent on mischief and caused the inexperienced people

- (5) much trouble. But at last the innkeeper set a watch upon the devil and took him in the fact.

The innkeeper got a piece of rope.

"Now I am going to thrash you," said the innkeeper.

- (10) "You have no right to be angry with me," said the devil. "I am only the devil, and it is my nature to do wrong."

"Is that so?" asked the innkeeper.

"It is a fact, I assure you," said the devil.

- (15) "You really cannot help doing ill?" asked the innkeeper.

"Not in the smallest," said the devil: "it would be useless cruelty to thrash a thing like me."

"It would indeed," said the innkeeper.

And he made a noose and hanged the devil.

14. According to the passage, the people at the inn suffered annoyance because they were

- (A) bad by nature
- (B) damned by the devil
- (C) incapable of action
- (D) unsophisticated
- (E) unwilling to learn

15. As "fact" is used in line 6, it is a synonym for

- (A) a sure thing
- (B) circumstance
- (C) deed
- (D) discovery
- (E) proper idea

16. The devil assumes that punishment is given to

- (A) bring about reform
- (B) even the score with society
- (C) gain revenge
- (D) serve as an example to others
- (E) follow a legal tradition

17. The innkeeper's action is basically

- (A) forgiving
- (B) logical
- (C) self-contradictory
- (D) sentimental
- (E) impulsive

One peculiarity of the dark areas seen by scientists on the surface of the planet Mars seems to indicate that they cannot be forests like those on earth. During the Martian day, which is almost exactly the same length as that on earth, dark regions near the equator of Mars become fifteen degrees hotter than nearby reddish desert areas. If they were covered by dense vegetation, one would expect them to be cooler. Furthermore, they warm in the morning and cool in the evening just as fast as the deserts, reaching their highest temperature a half hour after midday. Our own vegetated regions are much slower to change temperature.

18. If a Martian day were divided into 24 hours with noon midway between sunrise and sunset, at what time would the dark areas on Mars be the hottest?

- (A) Between 10:00 a.m. and 11:00 a.m.
- (B) Between 12:00 noon and 1:00 p.m.
- (C) Between 3:00 p.m. and 4:00 p.m.
- (D) Between 7:00 p.m. and 8:00 p.m.
- (E) Between 12:00 midnight and 1:00 a.m.

19. The author is most interested in the

- (A) deserts of Mars
- (B) dark areas on Mars
- (C) temperature on Mars
- (D) vegetation on Mars
- (E) equator of Mars

20. Which of the following does the passage suggest about desert areas on the earth?

- (A) They are generally reddish in appearance.
- (B) They change temperature more quickly than desert areas on Mars.
- (C) They change temperature more quickly than the earth's forested areas.
- (D) They reach their highest temperature in the morning.
- (E) They are cooler than desert areas on Mars.

APPENDIX B



VOCATIONAL EDUCATION

EFFECTIVENESS STUDY

Spring 1983

ARIZONA CENTER FOR VOCATIONAL EDUCATION

Box 6025

Flagstaff, Arizona 86011

Administered by Northern Arizona University



The Arizona Center for Vocational Education is studying the effectiveness of vocational education in Arizona secondary schools. The purpose of the study is to assist local school districts and the Arizona Department of Education to plan and provide quality vocational education programs.

This study is being carried out by the Arizona Center for Vocational Education, an organization affiliated with Northern Arizona University, using survey instruments that have been developed and validated through a previous project in Oregon. Criteria for judging program effectiveness were established in that project through cooperation with vocational educators and employers in Oregon, the National Center for Research in Vocational Education and vocational education administrators in Oregon, Arizona and four other State Departments of Education.

By completing and returning this questionnaire, you will have given your consent to include your responses in our study. All information gathered through this process will be kept STRICTLY CONFIDENTIAL. The results will be tabulated and summarized so no one's name will be associated with any of the data. The responses will be maintained in the Arizona Center for Vocational Education offices, and will be accessible only to Center personnel. You may withdraw your consent to participate at any time.

Results of the survey will be produced as a state summary and also made available as a summary for the individual schools participating in the study.



Arizona Center for Vocational Education
Box 6025
Flagstaff, Arizona 86011
(602) 523-5442

Administered by Northern Arizona University

Prepared by the Northwest Regional Educational Laboratory, Portland, Oregon, and modified by the Arizona Center for Vocational Education, Flagstaff, Arizona. These materials do not, however, necessarily reflect the views of those agencies.

SPRING, 1984

VOCATIONAL EDUCATION EFFECTIVENESS STUDY

VOCATIONAL EDUCATION TEACHER SURVEY

This survey will be used to help in the evaluation and improvement of vocational education both locally and statewide. Responses will be grouped together for reporting purposes. Individual responses will be kept confidential and it is not necessary to give us your name.

1. Your School _____ (1-5)*

2. What vocational education area(s) do you teach? (CIRCLE ONE OR MORE)

- | | | |
|--|---|------|
| Agriculture (Forest Products) | 1 | (6) |
| Business and Office (Accounting, Clerical,
Secretarial) | 2 | (7) |
| Distributive Education
(Food Service, Marketing) | 3 | (8) |
| Health Occupations. | 4 | (9) |
| Home Economics Occupations (Child Care,
Clothing, Institutional and Home
Management Service) | 5 | (10) |
| Technical (Electronics, Mechanical) | 6 | (11) |
| Trade and Industry (Construction,
Drafting, Forest Products, Graphics,
Metals, Service). | 7 | (12) |

* Please ignore the number in parentheses; they are for keypunching purposes only.

3. Rate the quality of the following components of your vocational education program. (CIRCLE THE NUMBER corresponding to your rating, i.e., Excellent = 1, Good = 2, Fair = 3, Very Poor = 4, and Can't Judge = CJ.)

	Excel- lent	Good	Fair	Very Poor	Can't Judge	
Quality of Instruction	1	2	3	4	CJ	(13)
Available occupational information	1	2	3	4	CJ	(14)
Job placement assistance for completers	1	2	3	4	CJ	(15)
Vocational counseling	1	2	3	4	CJ	(16)
Up-to-date equipment and materials (or appropriate to the technological range of employers in your area)	1	2	3	4	CJ	(17)
Availability of enough equipment and materials for the numbers of students	1	2	3	4	CJ	(18)
Realistic instructional experiences	1	2	3	4	CJ	(19)
Adequate physical facilities	1	2	3	4	CJ	(20)
Availability of cooperative work experience opportunities for all who desire it	1	2	3	4	CJ	(21)
Program coordination and administration	1	2	3	4	CJ	(22)
Program advisory council	1	2	3	4	CJ	(23)

4. Approximately what percentage of your vocational program's completers find jobs in areas related to their vocational training? _____ % (24-25)

5a. Are there postsecondary vocational programs available in your region or local area which extend the training your program's completers have received? (CIRCLE ONE) (26)

Yes 1

No 2

Don't Know 3

5b. If Yes, what proportion of your vocational education completers are informed of these programs and their content? (CIRCLE ONE) (27)

All 1

Most 2

Some 3

None 4

6. Approximately what percentage of your vocational program's completers enroll in postsecondary vocational programs directly or closely related to the occupational area of their high school training? _____ % (28-29)

7. What input is used to help assure that your vocational education program is meeting current and future labor market needs? (CIRCLE ALL THAT APPLY.)

Input from advisory committee 1 (30)

Teachers talking to employers 2 (31)

Teachers' participation in local business conferences or meetings such as Chamber of Commerce 3 (32)

Other (specify) 4 (33)

8. As a result of your vocational education program, how well prepared are your completers in each of the areas listed below? If your program does not address a particular area, circle "N/A" for Not Appropriate.

	Very Well Prepared	Well Prepared	Not Well Prepared	Very Poorly Prepared	Not Appro- priate	
Vocational or technical skills to get an entry- level job	1	2	3	4	N/A	(34)
Knowing how to look for and obtain a job	1	2	3	4	N/A	(35)
Being able to follow directions	1	2	3	4	N/A	(36)
Having a desire to learn new things	1	2	3	4	N/A	(37)
Being on time to work or in completing tasks	1	2	3	4	N/A	(38)
Getting along with others	1	2	3	4	N/A	(39)
Preparing a job resume	1	2	3	4	N/A	(40)
Interviewing for a job	1	2	3	4	N/A	(41)
Use of reading skills to do job tasks	1	2	3	4	N/A	(42)
Use of math skills to do job tasks	1	2	3	4	N/A	(43)
Being aware of both the positive as well as the negative aspects of jobs	1	2	3	4	N/A	(44)
Understanding the importance of being productive on the job	1	2	3	4	N/A	(45)

	Very Well Prepared	Well Prepared	Not Well Prepared	Very Poorly Prepared	Not Appro- priate	
Being able to use speaking and listening skills in work situations	1	2	3	4	N/A	(46)
Doing work that meets acceptable standards	1	2	3	4	N/A	(47)
Being able to "do the job" for which they have been trained	1	2	3	4	N/A	(48)

9. In addition to student oriented outcomes, we would also like your ratings of other vocational education outcome standards. Please rate each standard as "Fully Met," "Partially Met" or "Not Met." If you don't have enough information to judge, circle CJ for "Can't Judge."

	Fully Met	Partially Met	Not Met	Can't Judge	
The vocational program is meeting local labor market needs at the present and as projected over the next several years.	1	2	3	CJ	(49)
Effective collaboration exists between the program and the rest of the school.	1	2	3	CJ	(50)
Effective collaboration exists between the program, and local business and industry.	1	2	3	CJ	(51)
The high school vocational curriculum is appropriately articulated with post-secondary training programs.	1	2	3	CJ	(52)

Fully Met	Partially Met	Not Met	Can't Judge
▼	▼	▼	▼

The vocational program reflects the emerging trends in the occupational field.

1 2 3 CJ (53)

The vocational program increases the attractiveness of the community for economic development.

1 2 3 CJ (54)

10. Are there any handicapped students in your particular vocational education program? (55)

Yes 1

No 2

Don't Know 3

10a. If yes, how many handicapped students are involved? (56-57)

11. Are there any economically disadvantaged students in your vocational education program? (58)

Yes 1

No 2

Don't Know 3

11a. If yes, how many economically disadvantaged students are involved? (59-60)

12. What support services are available to assist handicapped or economically disadvantaged students to succeed in their vocational education program? (CIRCLE ONE OR MORE NUMBERS FOR EACH GROUP.)

For Handicapped	For Economically Disadvantaged
▼	▼

Tutoring	1	(61)	1	(69)
Counseling	2	(62)	2	(70)
Interpreter/sign language	3	(63)	3	(71)
Interpreter/English limited proficiency	4	(64)	4	(72)

	For Handicapped		For Economically Disadvantaged	
Learning center for remedial work . . .	5	(65)	5	(73)
Special textbooks or other materials . .	6	(66)	6	(74)
Special cooperative work experience . .	7	(67)	7	(75)
Other (Please list)	8	(68)	8	(76)

(80) = "1"

13. If support services are provided, how satisfactory are those support services in helping handicapped students in vocational education?

(6)

Very satisfactory 1
 Satisfactory 2
 Dissatisfactory 3
 Very dissatisfactory 4
 Not Applicable 5

14. If support services are provided, how satisfactory are these support services in helping economically disadvantaged students in vocational education?

(7)

Very satisfactory 1
 Satisfactory 2
 Dissatisfactory 3
 Very dissatisfactory 4
 Not Applicable 5

Background

For statistical purposes it is helpful to know the characteristics of those we have surveyed. We would appreciate your giving us the following information; however, if there are any items you wish to omit, feel free to do so.

15. Sex: (CIRCLE ONE NUMBER)

(8)

Male 1

Female 2

16. Number of years you have been a vocational education teacher: _____ (9-10)
17. What is your highest earned degree? (CIRCLE ONE) (11)
- Less than a Baccalaureate 1
 - Baccalaureate 2
 - Masters 3
 - Doctorate 4
18. How many years of occupational experience have you had in your vocational teaching area(s), outside of education? (CIRCLE ONE) (12)
- None 1
 - Less than one year 2
 - 1-4 years 3
 - 5-8 years 4
 - 9-12 years 5
 - More than 12 years 6
19. To what extent were you involved in planning and/or making changes in your local district's annual plan for vocational education? (13)
- Extensively 1
 - Moderately 2
 - Little 3
 - None 4
20. If you were involved, please indicate in what way? If not, please specify. _____
21. What suggestions, if any, do you have for improving vocational education at your school? (feel free to use the back page if you need additional space)

Thank you for your participation in this study.

APPENDIX C



VOCATIONAL EDUCATION

EFFECTIVENESS STUDY

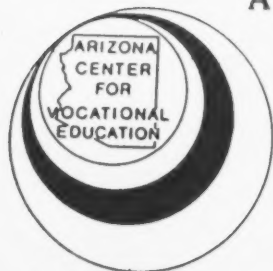
Spring 1983

ARIZONA CENTER FOR VOCATIONAL EDUCATION

Box 6025

Flagstaff, Arizona 86011

Administered by Northern Arizona University



The Arizona Center for Vocational Education is studying the effectiveness of vocational education in Arizona secondary schools. The purpose of the study is to assist local school districts and the Arizona Department of Education to plan and provide quality vocational education programs.

This study is being carried out by the Arizona Center for Vocational Education, an organization affiliated with Northern Arizona University, using survey instruments that have been developed and validated through a previous project in Oregon. Criteria for judging program effectiveness were established in that project through cooperation with vocational educators and employers in Oregon, the National Center for Research in Vocational Education and vocational education administrators in Oregon, Arizona and four other State Departments of Education.

By completing and returning this questionnaire, you will have given your consent to include your responses in our study. All information gathered through this process will be kept STRICTLY CONFIDENTIAL. The results will be tabulated and summarized so no one's name will be associated with any of the data. The responses will be maintained in the Arizona Center for Vocational Education offices, and will be accessible only to Center personnel. You may withdraw your consent to participate at any time.

Results of the survey will be produced as a state summary and also made available as a summary for the individual schools participating in the study.



Arizona Center for Vocational Education
Box 6025
Flagstaff, Arizona 86011
(602) 523-5442

Administered by Northern Arizona University

Prepared by the Northwest Regional Educational Laboratory, Portland, Oregon, and modified by the Arizona Center for Vocational Education, Flagstaff, Arizona. These materials do not, however, necessarily reflect the views of those agencies.

SPRING, 1984

El Arizona Center for Vocational Education está estudiando el efecto de la educación profesional en las escuelas secundarias de Arizona. El propósito del estudio es para ayudar a los distritos locales de las escuelas y al Ministerio de Educación de Arizona para planear y proveer programas de educación profesional de buena calidad.

El Arizona Center for Vocational Education, una organización educativa asociada con Northern Arizona University, está realizando éste estudio usando métodos para tomar la encuesta que ya han sido desarrollados y validados por un proyecto anterior en el estado de Oregon. Se estableció el criterio para analizar el efecto del programa en ése proyecto en cooperación con los educadores profesionales y empleadores de Oregon, el National Center for Research in Vocational Education y administradores de educación profesional en Oregon, Arizona y los Ministerios de Educación de otros cuatro estados.

Al llenar y devolver ésta encuesta usted habrá dado permiso para incluir sus repuestas en nuestro estudio. Se mantendrá confidencial toda la información acumulada en éste proceso. Se dispondrá de tablas y se resumirá los resultados de manera que no se relacione ningún nombre con los datos. Las repuestas se mantendrán en las oficinas del Arizona Center for Vocational Education, y solo los empleados del Centro tendrán acceso para verlas. En cualquier momento usted podrá negarse a participar.

Se producirán los resultados de la encuesta como resumen del estado y también se pondrán a la disposición de las escuelas que participen en el estudio.

Preparado por el Northwest Regional Educational Laboratory, Portland, Oregon, y modificado por el Arizona Center for Vocational Education. Esto foyeto no es, necesariamente, los puntos de vista de estas agencias.

Otoño, 1983

Estudio del Efecto de la Educación Profesional

Encuesta a los Padres

Favor de tomar unos minutos para contestar las preguntas de esta encuesta. La escuela usará la información de los padres para ayudar a mejorar la educación profesional.

1. Nombre de la escuela _____ (1-5)
2. En cuál de las siguientes vocaciones recibe su hijo/a educación profesional? (Marque un número.) (6)
 - Agricultura (Productos Forestales) 1
 - Negocios (Contabilidad, Trabajo de Oficina, Trabajo de secretaria) 2
 - Educación Distributiva (Servicio de alimentos, Mercadeo). 3
 - Carreras de Salud 4
 - Economía Casera (Puericultura, Confección, Servicio Administrativo de Institución y Casa) 5
 - Técnico (Electrónica, Mecánica 6
 - Comercio e Industria (Construcción, Dibujo Lineal, Productos Forestales, Gráfico, Metales, Servicio). 7
3. Estaba usted de acuerdo con que su hijo/a asistiera a los cursos de educación profesional? (Marque uno.) (7)
 - Sí 1
 - No me importaba mucho 2
 - No 3
4. Que carrera quiere estudiar su hijo/a después de la secundaria?

(Si usted no sabe escriba ("No se")) (8-9)

*No haga caso de los números en paréntesis; solo están para propósitos de la Perforadora.

VOCATIONAL EDUCATION EFFECTIVENESS STUDY

PARENT SURVEY

Please take a few minutes to answer the questions on this survey. The information from parents will be used by the school in helping to improve vocational education.

1. School Name _____ (1-5)*

2. In which of the following areas is your daughter/son now receiving vocational training? (CIRCLE ONE) (6)

Agriculture (Forest Products) 1

Business and Office (Accounting, Clerical,
Secretarial) 2

Distributive Education
(Food Service, Marketing) 3

Health Occupations 4

Home Economics Occupations (Child Care,
Clothing, Institutional and Home
Management Service) 5

Technical (Electronics, Mechanical) 6

Trade and Industry (Construction,
Drafting, Forest Products, Graphics,
Metals, Service). 7

3. How did you feel about your daughter or son entering vocational education in high school? (CIRCLE ONE) (7)

I liked the idea 1

I didn't have strong feelings either way . . . 2

I didn't like the idea 3

* Please ignore numbers in parentheses; they are for keypunching purposes only.

5. Se ha dado cuenta de cambios en la ejecución de su hijo/a en los siguientes campos como resultado de estar matriculado/a en un programa de educación profesional? (Marque el numero que corresponda a la calificación de cada articulo.)

	Mucho Mejor	Un Poco Mejor	Ningun Cambio	Un Poco Peor	Mucho Peor	
Compresión de como buscar y obtener empleo	1	2	3	4	5	(10)
Seguir Instrucciones	1	2	3	4	5	(11)
Ser puntual en el trabajo o para cumplir con las tareas	1	2	3	4	5	(12)
Llevarse con otras personas	1	2	3	4	5	(13)
Darse cuenta de los aspectos positivos del trabajo como también de los aspectos negativos	1	2	3	4	5	(14)
Entender la importancia de ser productivo en el trabajo	1	2	3	4	5	(15)
Trabajar de acuerdo con los requisitos	1	2	3	4	5	(16)
Deseo de aprender cosas nuevas	1	2	3	4	5	(17)
Querer aceptar responsabilidades adicionales en la casa o en la escuela	1	2	3	4	5	(18)
Querer hacer cosas o sugerir ideas sin necesidad de preguntarle	1	2	3	4	5	(19)

4. What occupational area does your daughter/son plan to enter after high school?

(If you don't know, please write "Don't Know".)

(8-9)

5. As a result of being enrolled in a vocational education program, what changes have you noticed in your daughter's/son's performance in the following areas: (CIRCLE THE NUMBER corresponding to your rating for each item.)

	Very Improved	Somewhat Improved	No Change	Somewhat Worse	Much Worse	
	▼	▼	▼	▼	▼	
Understanding of how to look for and obtain a job	1	2	3	4	5	(10)
Being able to follow directions	1	2	3	4	5	(11)
Willing to learn new things	1	2	3	4	5	(12)
Being on time for work or in completing tasks	1	2	3	4	5	(13)
Getting along with others	1	2	3	4	5	(14)
Being aware of both the positive as well as the negative aspects of jobs	1	2	3	4	5	(15)
Understanding the importance of being productive on the job	1	2	3	4	5	(16)
Doing work that meets acceptable standards	1	2	3	4	5	(17)
Willing to take on added responsi- bilities at home or in school	1	2	3	4	5	(18)
Willing to do things or suggest ideas without being asked first	1	2	3	4	5	(19)

6. Está satisfecho/a de que su hijo/a haya recibido ayuda en los siguientes campos?

	Muy Satisfecho/a	Un Poco Satisfecho/a	Insatisfecho	No Sé	
Orientación Profesional	1	2	3	NS	(20)
Ayuda en buscar empleo	1	2	3	NS	(21)
Obtener información profesional actual	1	2	3	NS	(22)
Supervisión en las experiencias del trabajo en el sitio de trabajo	1	2	3	NS	(23)

7. Está satisfecho/a que su hijo/a haya recibido las habilidades necesarias para encontrar empleo? (Marque el número adecuado.) (24)

Muy Satisfecho/a 1
 Un Poco Satisfecho/a 2
 Insatisfecho/a 3
 No Sé 4

8. Cómo resultado de estar matriculado/a en el entrenamiento profesional, cómo ha cambiado el interés de su hijo/a en la escuela? (Marque el número adecuado.) (25)

Ha aumentado 1
 Está casi igual 2
 Ha disminuído 3

6. How satisfied are you that your daughter/son has received assistance in the following areas? (CIRCLE ONE)

	Very Satis- fied ▼	Somewhat Satis- fied ▼	Not Satis- fied ▼	Don't Know ▼	
Vocational counseling	1	2	3	DK	(20)
Help in finding a job	1	2	3	DK	(21)
Obtaining <u>current</u> occupational information at school	1	2	3	DK	(22)
Getting supervised work experiences at employer sites (if in cooperative work experience)	1	2	3	DK	(23)

7. How satisfied are you that your daughter/son has received the necessary occupational skills to get an entry-level job?
(CIRCLE ONE)

(24)

Very Satisfied 1
Somewhat Satisfied 2
Not Satisfied 3
I Don't Know 4

8. As a result of being enrolled in vocational training, how has your daughter's/son's satisfaction with school changed?
(CIRCLE ONE)

(25)

It's increased 1
It's about the same 2
It's decreased 3

9. Overall, how satisfied are you with your son or daughter's vocational education program? (CIRCLE ONE)

(26)

Very satisfied 1
Somewhat satisfied 2
Not satisfied 3

9. En resumen está satisfecho/a con el programa de educación profesional de su hijo/a? (Marque el número adecuado.) (26)
- Muy Satisfecho/a 1
- Un Poco Satisfecho/a 2
- Insatisfecho/a 3
10. Piensa usted que un estudiante de la secundaria que está terminando el programa de educación profesional tiene una mejor oportunidad de conseguir empleo que los estudiantes que no recibe el entrenamiento? (Marque el número adecuado.) (27)
- Sí 1
- No 2
- No Sé 3
11. Si su hijo/a tiene algún impedimento le ofrecen servicios adicionales para ayudarlo a obtener éxito en la educación profesional? (Marque el número adecuado.) (28)
- Sí 1
- No 2
- No es adecuado 3
12. Si usted contesto sí, está satisfecho/a con estos servicios? (Marque el número adecuado.) (29)
- Muy Satisfecho/a 1
- Satisfecho/a 2
- Descontento/a 3
- Muy descontento/a 4
- No es adecuado 5
13. Hoy en día muchos distritos educativos tienen que confrontar cortes en el presupuesto y tienen que evaluar la importancia de unos cursos en comparación con los programas de otras secundarias. Que importancia tiene que las secundarias mantengan programas de educación profesional? (Marque el número adecuado.) (30)
- Superior 1
- Promedio 2
- Inferior 3

10. Do you feel a high school student completing a vocational education program has a better chance of getting a job than students without training? (CIRCLE ONE) (27)

Yes 1

No 2

Don't Know 3

11. If your son or daughter is handicapped are additional services being provided to assist him or her to succeed in vocational education? (CIRCLE ONE) (28)

Yes 1

No 2

Not Appropriate . . . 3

12. If yes, how satisfied are you that these services are helping your daughter or son? (CIRCLE ONE) (29)

Very satisfied 1

Satisfied 2

Dissatisfied 3

Very dissatisfied 4

Not Applicable 5

13. Many school districts today are faced with budget cuts and have to decide about the relative importance of different course offerings compared to other high school programs. How important is it that high schools keep vocational education programs? (CIRCLE ONE) (30)

High 1

Medium 2

Low 3

14. Cual es su relación con este estudiante de educación profesional? (Marque el número adecuado.) (31)

Madre 1

Padre 2

Persona encargada 3

Cualquier otra persona . . . 4

15. Por favor describa el tipo de trabajo que usted hace o usualmente ha hecho el año pasado? (32)

16. Que sugerencias tiene usted para mejorar la educación profesional de la secundaria?

Gracias por su participación en este estudio.

14. What is your relationship to this vocational education student?
(CIRCLE ONE)

(31)

Mother 1

Father 2

Female Guardian 3

Male Guardian 4

Other 5

15. Please describe the type of work you do or have usually done in the
past year. _____

(32)

16. What suggestions, if any, do you have for improving high school
vocational education?

Thank you for your participation in this Study.

APPENDIX D

ARIZONA VOCATIONAL EDUCATION EFFECTIVENESS STUDY

High School Coordinator Directions

Survey Instruments

You are receiving seven different survey forms--four student survey instruments and surveys for vocational education teachers, coordinator/administrator and local advisory committee.

Instructions for Distributing the Surveys

TO BE COMPLETED AND MAILED NO LATER THAN JANUARY 20, 1984.

1. Our goal is to survey all your 12th grade vocational education students (all those who have had at least two prior semesters or equivalent of course work in a state-approved vocational education cluster area, beyond the exploratory level). Examples are business and office occupations, agriculture, etc. Give each 12th grade vocational education teacher enough 12th Grade Vocational Education Student Surveys (blue booklet) to administer to all their students in one class period.

NOTE: Please obtain and send to us the address cover sheet from the 12th Grade Vocational Education surveys as soon as possible, as the parent survey distribution is contingent on our receiving the addresses.

2. We wish to survey approximately 30 males and 30 female nonvocational education 12th grade students whose backgrounds are similar to your vocational education students. Please select two classes required of all 12th graders, such as English. Give those teachers sufficient copies of the 12th Grade (nonvocational education) Student Survey (beige booklet) so all their nonvocational students can complete it.

3. Select approximately 30 male and 30 female 10th graders who are likely to have forecast vocational education for next year or are currently enrolled in pre-vocational courses. You might select a typing class and an auto mechanics or similar class, but please strive for balance in numbers of females and males completing the survey. Provide the teachers with copies of both 10th grade survey forms--10th Grade Vocational Education Students (white booklets) and 10th Grade (nonvocational education) Students (green booklets) so they can survey all their students in one class period.

4. Identify the most efficient way in your school to survey about 30 male and 30 female 10th graders who plan not to take vocational education next year but are similar in background to those intending to take vocational education. Some of these students may have completed the nonvocational education survey in the pre-vocational classes included above and can be instructed to do homework or other assignments. Additional 10th grade nonvocational education students may be surveyed in a single class such as English. Give teachers the green booklets for 10th Grade (nonvocational education) Students.

5. Provide teachers with a copy of the Teacher Instruction Sheets for the surveys. Please add due dates and where to return the forms they are administering on the appropriate lines of these sheets.
6. Ask the teachers to return the completed surveys and any unused surveys to you (or your designated representative) by the date you set.
7. Use the attached record form to keep track of survey distribution and completion.
8. Provide the Vocational Education Teacher Survey (beige) to all teachers of one or more vocational education courses at the 11th and 12th grade levels. Ask them to complete the unsigned survey to the best of their ability and return it to you at the end of the week in a sealed envelope. Note: you may want them to put their names on the outside of the envelopes so you know which ones you receive back; then remove the forms and destroy the envelopes to protect the confidentiality of the responses.
9. The Coordinator/Administrator Survey (green) should be completed by the school and/or district vocational education coordinator. If there is a coordinator at both the school and district level, get completed surveys from both of them.
10. Submit the Local Advisory Committee Survey (blue) to all members of the local vocational education advisory committee for each vocational area at your school. If your district has advisory committees for different vocational areas at the district level only, ask them to complete the survey if you feel they are adequately familiar with the operations at your school. If they are not knowledgeable enough, omit this survey.

Our preference is for the advisory committee chairpersons to distribute the surveys at their next meeting and ask members to take 10 minutes to complete them at that time and return them to you. If some advisory committees will not be meeting simply write a brief note about that and omit this part of the study.

NOTE: Committee surveys can be returned later if necessary, but no later than February 10, 1984.

11. Return all completed surveys and the record sheet to Ms. Hyatt Simpson at the Arizona Center for Vocational Education, NAU Box 6025, Flagstaff, AZ 86011. If you have any questions, call Hyatt at 523-4193.

THANK YOU VERY MUCH FOR ASSISTING IN THIS STUDY!

Appendix E

Total Number of Students By Grade and Curriculum

	VE	NVE	Total
10th Grade	498	425	923
12th Grade	673	285	958
Total	1171	710	1881

Note: The number in each group here may be higher than in all subsequent tables, as total non-response will not be shown in the rest of the report.

Total Vocational Students By Program Area

	10th Grade		12th Grade	
	Number	Percent	Number	Percent
Agriculture	16	3.8	27	4.2
Business and Office	157	37.2	175	27.3
Distributive Education	10	2.4	74	11.5
Health Occupations	15	3.6	25	3.9
Home Economics	58	13.7	109	17.0
Technical	50	11.8	48	7.5
Trade and Industry	116	27.5	183	28.6
Totals	422	100.0	641	100.0

Appendix F

Vocational Students' Reasons for Choosing Vocational Education Program

	10th Grade		12th Grade	
	Number	Percent	Number	Percent
My friends were in the program	12	2.8	14	2.2
I wanted to learn specific job skills	176	40.5	226	35.4
I didn't like the general school courses	3	.7	16	2.5
My parents or relatives advised me to enroll	11	2.5	11	1.7
I have an interest in the area	208	47.8	330	51.7
My counselor or teachers advised me to enroll	12	2.8	19	3.0
Other reasons	13	3.0	22	3.4
Totals	435	100.0	638	100.0

Appendix F Continued

Nonvocational Students's Reasons
For Not Choosing Vocational Education Program

	10th Grade		12th Grade	
	Number	Percent	Number	Percent
My friends were in other courses	14	3.8	3	1.2
I preferred other courses	111	30.2	70	28.7
Being in academic courses has more status	8	2.2	15	6.1
My parents or relatives advised me not to enroll	3	.8	2	.8
My counselor or teachers advised me not to enroll	8	2.2	6	2.5
It was necessary for me to take other courses in order to reach my goals	118	32.2	94	38.5
I plan to delay my training in a vocational education area until after I finish high school	35	9.5	37	15.2
Other reasons	70	19.1	17	7.0
Totals	367	100.0	244	100.0

Appendix G

Father's Occupation (Percent)

	10th Grade		12th Grade	
	VE	NVE	VE	NVE
White collar	28.7	29.9	30.9	33.5
Blue collar	64.9	67.4	64.5	59.0
Other	6.4	2.7	4.6	7.5
Totals	100.0 (N=376)	100.0 (N=304)	100.0 (N=524)	100.0 (N=215)

Mother's Occupation (Percent)

	10th Grade		12th Grade	
	VE	NVE	VE	NVE
White collar	31.4	35.3	35.6	36.3
Blue collar	24.2	24.0	22.2	23.2
Homemaker/other	44.4	40.7	42.2	40.5
Totals	100.0	100.0	100.0	100.0

Appendix G Continued
Father's Education (Percent)

	10th Grade		12th Grade	
	VE	NVE	VE	NVE
Less than high school graduation	33.8	24.0	37.4	31.6
High school graduation only	28.8	29.1	27.3	22.8
Vocational school 2 years or less	11.6	16.8	13.9	12.1
College 2 years or less	9.3	12.2	8.1	12.9
College graduate or more	16.5	17.9	13.2	20.6
Totals	100.0 (N=438)	100.0 (N=375)	100.0 (N=618)	100.0 (N=272)

Mother's Education (Percent)

	10th Grade		12th Grade	
	VE	NVE	VE	NVE
Less than high school graduation	36.3	29.3	35.1	35.4
High school graduation only	32.1	35.1	37.4	30.2
Vocational school 2 years or less	14.4	13.7	11.8	14.2
College 2 years or less	7.9	11.5	8.1	9.3
College graduate or more	9.3	10.4	7.6	10.8
Totals	100.0 (N=443)	100.0 (N=363)	100.0 (N=610)	100.0 (N=268)

Appendix H

Type of Paid Work Students Have Most Recently Performed (Percent)

	10th Grade		12th Grade	
	VE	NVE	VE	NVE
Have not worked for pay	14.9	13.9	6.2	7.0
Lawn work or odd jobs	12.6	13.4	4.3	7.0
Waiter or waitress in a restaurant or drive-in	3.4	6.3	10.3	12.1
Babysitting or child care	28.7	22.0	14.0	15.8
Farm or agricultural work	4.7	8.1	4.6	4.4
Factory work, unskilled or semi-skilled	2.0	2.0	3.2	2.2
Skilled trade	2.7	3.8	7.1	3.3
Other manual labor	5.6	9.1	9.1	8.8
Store clerk or salesperson	3.6	3.8	10.5	10.6
Office or clerical	5.0	1.5	15.1	12.8
Hospital or health	2.0	1.5	2.8	1.1
Other	14.2	13.9	12.6	14.7
Totals	100.0 (N=441)	100.0 (N=394)	100.0 (N=648)	100.0 (N=272)

Appendix H Continued

Percent Participating in Activity

	10th Grade		12th Grade	
	VE	NVE	VE	NVE
Cooperative Work Experience (paid or unpaid)	14.9	12.7	35.0	20.7
CETA work programs (e.g., youth employment and training programs)	5.2	8.9	7.7	13.7
DECA	2.6	3.3	13.5	6.3
FBLA	8.6	5.6	13.2	5.9
FFA	4.0	6.5	4.9	2.1
FHA	4.0	2.3	2.9	2.8
FTA	0.0	.7	.3	.7
VICA	4.4	3.8	13.2	3.9
HERO	.4	.9	7.7	3.5
OEA	0.0	.7	.4	.3
Junior Achievement	6.4	3.3	5.2	5.3
Explorer Scouts which have a career focus	2.2	4.7	2.8	4.6
Mean number of activities	.536	.570	1.070	.702
	(N=498)	(N=425)	(N=673)	(N=285)

Appendix I

Activity Most Likely to Occupy Student in the Year After Leaving High School (Percent)

	VE	NVE
Working full-time	21.7	15.3
Entering an apprenticeship or on-the-job training program	4.2	4.4
Going into regular military service (or service academy)	9.0	8.8
Being a full-time homemaker	2.3	2.2
Taking <u>vocational or technical</u> courses at a trade or business school full-time or part-time	10.9	7.3
Taking <u>academic courses</u> at a junior or community college full-time or part-time	12.3	12.4
Taking <u>technical or vocational</u> subjects at a junior or community college full-time or part-time	7.9	5.8
Attending a four-year college or university full-time or part-time	23.1	32.8
Working part-time, but not attending school or college	3.0	4.0
Other (travel, take a break)	3.1	3.3
No plans	2.2	3.3
Totals	100.0 (N=644)	100.0 (N=274)

Appendix J

Teacher Ratings on Program Components (Percent)

	Excel- lent (1)	Good (2)	Fair (3)	Very Poor (4)	Can't Judge	N	Mean* Score
Quality of instruction	45.9	47.3	5.4	0.0	1.4	74	1.589
Available occupational information	9.5	62.2	18.9	8.1	1.4	74	2.260
Job placement assistance for completers	7.0	22.5	19.7	25.4	25.4	71	2.849
Vocational counseling	7.1	44.3	24.3	15.7	8.6	70	2.531
Up-to-date equipment and materials	30.1	35.6	19.2	12.3	2.8	73	2.141
Availability of enough equipment and materials	16.4	43.8	26.0	13.7	0.0	73	2.370
Realistic instruc- tional experiences	27.4	61.6	8.2	1.4	1.4	73	1.833
Adequate physical facilities	26.0	38.4	26.0	9.6	0.0	73	2.192
Availability of cooperative work experience oppor- tunities for all who desire it	18.1	23.6	18.1	25.0	15.3	72	2.590
Program coordination and administration	13.9	50.0	18.1	5.6	12.5	72	2.175
Program advisory council	8.3	26.4	25.0	16.7	23.6	72	2.655

*"Can't Judge" is not included in calculation of mean.

Appendix K

Teacher Ratings on Completers' Preparation (Percent)

	Very Well Prepared (1)	Well Prepared (2)	Not Well Prepared (3)	Very Poorly Prepared (4)	Not Appro- priate	N	Mean* Score
Vocational or technical skills to get an entry- level job	24.3	59.5	12.2	0.0	4.1	74	1.873
Knowing how to look for and obtain a job	21.9	46.6	21.9	1.4	8.2	73	2.030
Being able to fol- low directions	24.3	58.1	12.2	4.1	1.4	74	1.959
Having a desire to learn new things	18.1	59.7	18.1	1.4	2.8	72	2.029
Being on time to work or in completing tasks	23.0	62.2	12.2	0.0	2.7	74	1.889
Getting along with others	27.0	70.3	1.4	0.0	1.4	74	1.740
Preparing a job resume	16.4	47.9	16.4	8.2	11.0	73	2.185
Interviewing for a job	13.9	55.6	16.7	2.8	11.1	72	2.094
Use of reading skills to do job tasks	8.2	56.2	26.0	4.1	5.5	73	2.275
Use of math skills to do job tasks	6.8	50.7	27.4	4.1	10.9	73	2.323
Being aware of both the positive as well as the negative aspects of jobs	18.9	59.5	14.9	1.4	5.4	74	1.986

Appendix K Continued

	Very Well Prepared (1)	Well Prepared (2)	Not Well Prepared (3)	Very Poorly Prepared (4)	Not Appro- priate	N	Mean* Score
Understanding the importance of being productive on the job	36.5	47.3	13.5	0.0	2.7	74	1.764
Being able to use speaking and listening skills in work situations	13.7	60.3	20.5	0.0	5.5	73	2.072
Doing work that meets acceptable standards	21.9	69.9	5.5	0.0	2.7	73	1.831
Being able to "do the job" for which they have been trained	19.4	68.1	5.6	0.0	6.9	72	1.850

*"Not Appropriate" is not included in calculation of the mean.

Appendix L

Teacher Ratings on Vocational Education Outcome Standards (Percent)

	Fully Met (1)	Partially Met (2)	Not Met (3)	Can't Judge	N	Mean* Score
The vocational program is meeting local labor market needs at the present and as projected over the next several years	22.5	56.3	1.4	19.7	71	1.793
Effective collaboration exists between the program and the rest of the school	19.4	56.9	13.9	9.7	72	1.938
Effective collaboration exists between the program and local business and industry	16.7	61.1	12.5	9.7	72	1.954
The high school vocational curriculum is appropriately articulated with post-secondary training programs	20.8	50.0	11.1	18.1	72	1.881
The vocational program reflects the emerging trends in the occupational field	23.3	64.4	4.1	8.2	73	1.791
The vocational program increases the attractiveness of the community for economic development	28.2	28.2	5.6	38.0	71	1.980

*"Can't Judge" is not included in calculation of the mean.

Appendix M

Coordinator/Administrator Ratings on Program Components (Percent)

	Excel- lent (1)	Good (2)	Fair (3)	Very Poor (4)	Can't Judge	N	Mean* Score
Quality of instruction	23.1	53.8	15.4	0.0	7.7	13	1.917
Available occupational information	23.1	53.8	15.4	0.0	7.7	13	1.917
Job placement assistance for completers	0.0	15.4	61.5	7.7	15.4	13	2.909
Vocational counseling	15.4	30.8	46.2	0.0	7.7	13	2.333
Up-to-date equipment and materials	46.2	38.5	7.7	0.0	7.7	13	1.583
Availability of enough equipment and materials for the numbers of students	30.8	46.2	15.4	0.0	7.7	13	1.833
Realistic instructional experiences	23.1	61.5	7.7	0.0	7.7	13	1.833
Adequate physical facilities	46.2	38.5	0.0	7.7	7.7	13	1.667
Availability of cooperative work experience oppor- tunities for all who desire it	15.4	15.4	46.2	7.7	15.4	13	2.545
Training and experi- ence of the instruc- tional staff	46.2	46.2	7.7	0.0	0.0	13	1.846
Program coordination and administration	53.8	7.7	38.5	0.0	0.0	13	2.455
Program advisory council	33.3	8.3	25.0	25.0	8.3	12	2.000

*"Can't Judge" is not included in calculation of the mean.

Appendix N

Coordinator/Administrator Ratings on Completers' Preparation (Percent)

	Very Well Prepared (1)	Well Prepared (2)	Not Well Prepared (3)	Very Poorly Prepared (4)	Not Appro- priate	N	Mean*
Vocational or technical skills to get an entry- level job	25.0	66.7	8.3	0.0	0.0	12	1.833
Knowing how to look for and obtain a job	0.0	100.0	0.0	0.0	0.0	12	2.000
Being able to fol- low directions	8.3	91.7	0.0	0.0	0.0	12	1.917
Having a desire to learn new things	8.3	66.7	8.3	0.0	16.7	12	2.000
Being on time to work or in completing tasks	0.0	91.7	0.0	0.0	8.3	12	2.000
Getting along with others	8.3	66.7	16.7	0.0	8.3	12	2.091
Preparing a job resume	8.3	75.0	16.7	0.0	10.0	12	2.083
Interviewing for a job	8.3	75.0	16.7	0.0	0.0	12	2.083
Use of reading skills to do job tasks	0.0	75.0	25.0	0.0	0.0	12	2.250
Use of math skills to do job tasks	0.0	83.3	16.7	0.0	0.0	12	2.167
Being aware of both the positive as well as the negative aspects of jobs	8.3	75.0	8.3	0.0	8.3	12	2.000

Appendix N Continued

	Very Well Prepared (1)	Well Prepared (2)	Not Well Prepared (3)	Very Poorly Prepared (4)	Not Appro- priate	N	Mean*
Understanding the importance of being productive on the job	8.3	75.0	8.3	0.0	8.3	12	2.000
Being able to use speaking and listening skills in work situations	0.0	83.3	16.7	0.0	0.0	12	2.167
Doing work that meets acceptable standards	16.7	75.0	8.3	0.0	0.0	12	1.917
Being able to "do the job" for which they have been trained	16.7	75.0	0.0	0.0	8.3	12	1.818

*"Not Appropriate" is not included in calculation of the mean.

Appendix O

Coordinator/Administrator Ratings on Vocational Education Outcome Standards (Percent)

	Fully Met (1)	Partially Met (2)	Not Met (3)	Can't Judge	N	Mean* Score
The vocational program is meeting local labor market needs at the present and as projected over the next several years	16.7	33.3	16.7	33.3	12	2.000
Effective collaboration exists between the program and the rest of the school	41.7	50.0	8.3	0.0	12	1.667
Effective collaboration exists between the program and local business and industry	25.0	66.7	0.0	8.3	12	1.727
The high school vocational curriculum is appropriately articulated with post-secondary training programs	16.7	66.7	8.3	8.3	12	1.909
The vocational program reflects the emerging trends in the occupational field	16.7	66.7	8.3	8.3	12	1.909
The vocational program increases the attractiveness of the community for economic development	25.0	50.0	16.7	8.3	12	1.909

*"Can't Judge" is not included in calculation of the mean.

Appendix P

Parents' Rating on Students' Change in Performance as a Result of Vocational Education Program Participation (Percent)

	Very Improved	Somewhat Improved	No Change	Somewhat Worse	Much Worse	N
Understanding of how to look for and obtain a job	35.2	38.4	25.6	.8	0.0	125
Being able to fol- low directions	35.7	39.7	23.8	.8	0.0	126
Willing to learn new things	50.0	31.7	18.3	0.0	0.0	126
Being on time for work or in completing tasks	42.4	31.2	25.6	.8	0.0	125
Getting along with others	40.5	34.1	24.6	.8	0.0	126
Being aware of both the positive as well as the negative aspects of jobs	42.9	42.1	15.1	0.0	0.0	126
Understanding the importance of being productive on the job	47.6	35.7	15.9	.8	0.0	126
Doing work that meets acceptable standards	48.4	30.2	19.8	1.6	0.0	126
Willing to take on added responsi- bilities at home or in school	29.4	38.1	30.2	2.4	0.0	126
Willing to do things or suggest ideas without being asked first	28.6	38.1	31.7	1.6	0.0	126

Appendix Q

Parents' Satisfaction with Vocational Program Areas (Percent)

	Very Satis- fied(1)	Somewhat Satis- fied(2)	Not Satis- fied(3)	Don't Know (4)	N
Vocational counseling	36.4	33.1	20.3	10.2	118
Help in finding a job	30.8	29.1	23.9	16.2	126
Obtaining <u>current</u> occupational information at school	34.2	36.8	18.8	10.3	126
Getting supervised work experiences at employer sites (if in cooperative work experience)	42.1	25.4	15.8	16.7	114
Getting necessary occupational skills for entry-level job	37.6	39.2	11.2	12.0	125

Appendix R
Mean Scores for
Comparisons Across Groups

Program Components	12th Grade VE	Teachers**	Coordinators/ Administrator**
Quality of instruction	1.811	1.589	1.917
Available occupational information	1.986	2.260	1.917
Job placement assistance for completers	2.106	2.849	2.909
Vocational counseling	2.077	2.531	2.333
Up-to-date equipment and materials	1.835	2.141	1.583
Availability of enough equipment and materials for the numbers of students		2.370	1.833
Realistic instructional experiences		1.833	1.833
Adequate physical facilities		2.192	1.667
Availability of cooperative work experience opportunities for all who desire it		2.590	2.545
Program coordination and administration		2.175	1.846
Program advisory council		2.655	2.455

* Students: 1 = Very satisfied; 2 = satisfied; 3 = dissatisfied;
4 = very dissatisfied.

**Others: 1 = Excellent; 2 = Good; 3 = Fair; 4 = Very poor

Appendix R Continued

Completers' Preparation*	12th Grade VE	Teachers	Coordinators/ Administrator
Vocational or technical skills to get an entry-level job	2.124	1.873	1.833
Knowing how to look for and obtain a job	2.006	2.030	2.000
Being able to follow directions	1.568	1.959	1.917
Having a desire to learn new things	1.380	2.029	2.000
Being on time to work or in completing tasks	1.468	1.889	2.000
Getting along with others	1.452	1.740	2.091
Preparing a job resume	2.164	2.185	2.083
Interviewing for a job	1.917	2.094	2.083
Use of reading skills to do job tasks	1.758	2.275	2.250
Use of math skills to do job tasks	1.986	2.323	2.167
Being aware of both the positive as well as the negative aspects of jobs	1.759	1.986	2.000
Understanding the importance of being productive on the job	1.563	1.764	2.000
Being able to use speaking and listening skills in work situations	1.738	2.072	2.167
Doing work that meets acceptable standards	1.629	1.831	1.917
Being able to "do the job" for which they have been trained		1.818	1.850

*1=Very well prepared; 2=well prepared; 3=not well prepared; 4=very poorly prepared

Appendix R Continued

Vocational Education Outcome Standards*	Teachers	Coordinator/ Administrator
The vocational program is meeting local labor market needs at the present and as projected over the next several years	1.793	2.000
Effective collaboration exists between the program and the rest of the school	1.938	1.667
Effective collaboration exists between the program and local business and industry	1.954	1.727
The high school vocational curriculum is appropriately articulated with post-secondary training programs	1.881	1.909
The vocational program reflects the emerging trends in the occupational field	1.791	1.909
The vocational program increases the attractiveness of the community for economic development	1.980	1.909
*1 = Fully met; 2 = Partially met; 3 = Not met		

Copies of this report as well as of instruments and other related documents are available upon request from:

The Arizona Center for Vocational Education
Research
P.O. Box 6025
Northern Arizona University
Flagstaff, Arizona 86011